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VOLUME 70 OCTOBER 7, 1935 NUMBER 4

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The Blue Grass region of Kentucky produced America's greatest race-horse, Man O' War, son of Fair Play-Mahubah, by Rocksand. He was bred by August Belmont, at the Nursery Stud, in 1917. Mr. Belmont entering war work, he was sold as a yearling, to S. D. Riddle, of Philadelphia.

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The photograph was taken at Commercial Drilling Company's Hillman No. 1, Golden Pond, Kentucky. The men, left to right, are: (Front row) Ross Amis; F. G. McClintock, lease superintendent; G. E. Amis, tool dresser; E. B. P. Painter, driller; F. E. Glendinning, drilling superintendent; J. A. Osman, tool dresser; F. A. Donaldson, Union Wire Rope Corp.; G. C. Summers, driller; Dr. Hura Wall; F. T. Feiock, tool dresser. (Top row) Milton Newberry, water pumper; D. R. Litchfield, farmer; Dan Painter.

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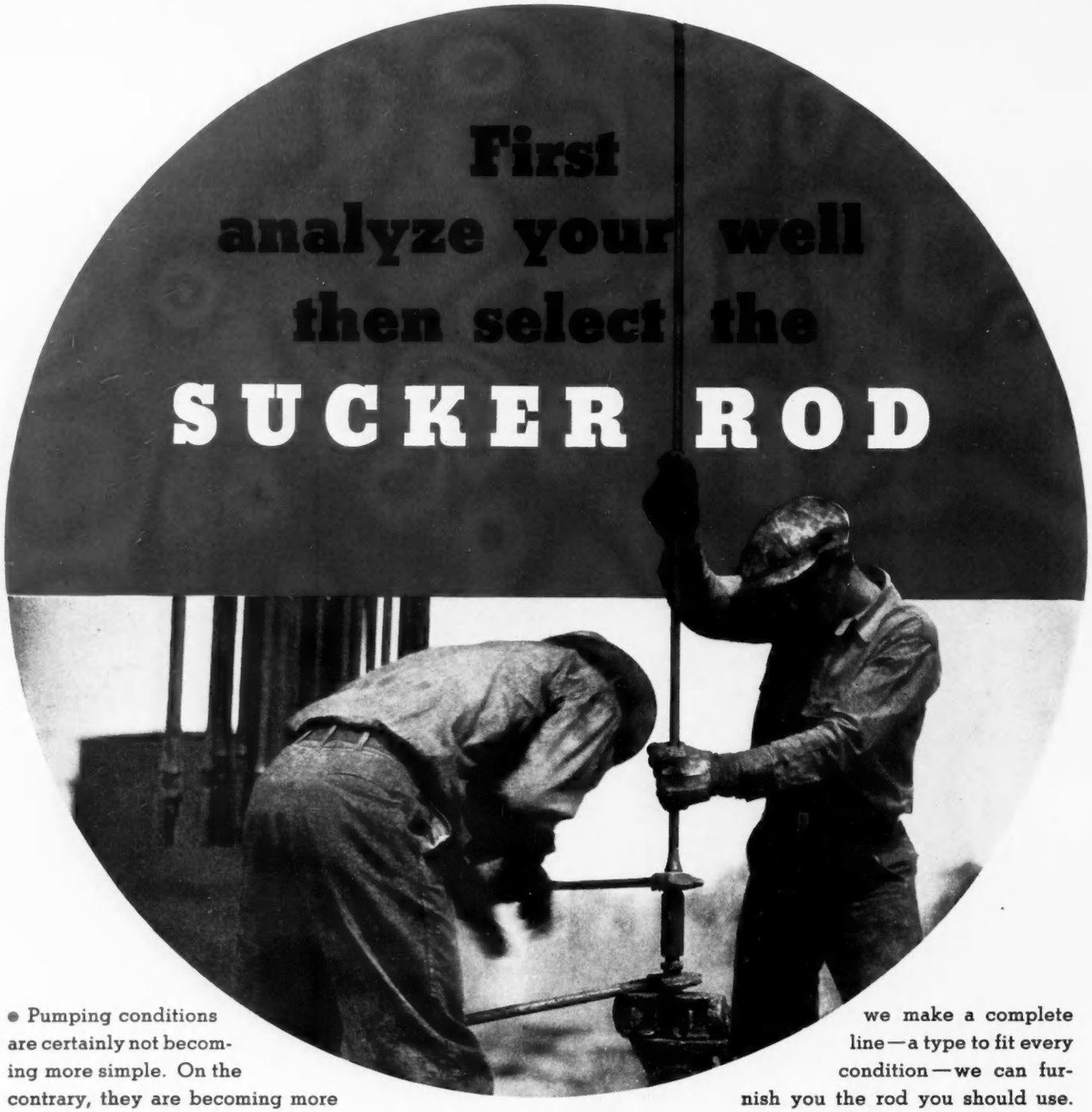

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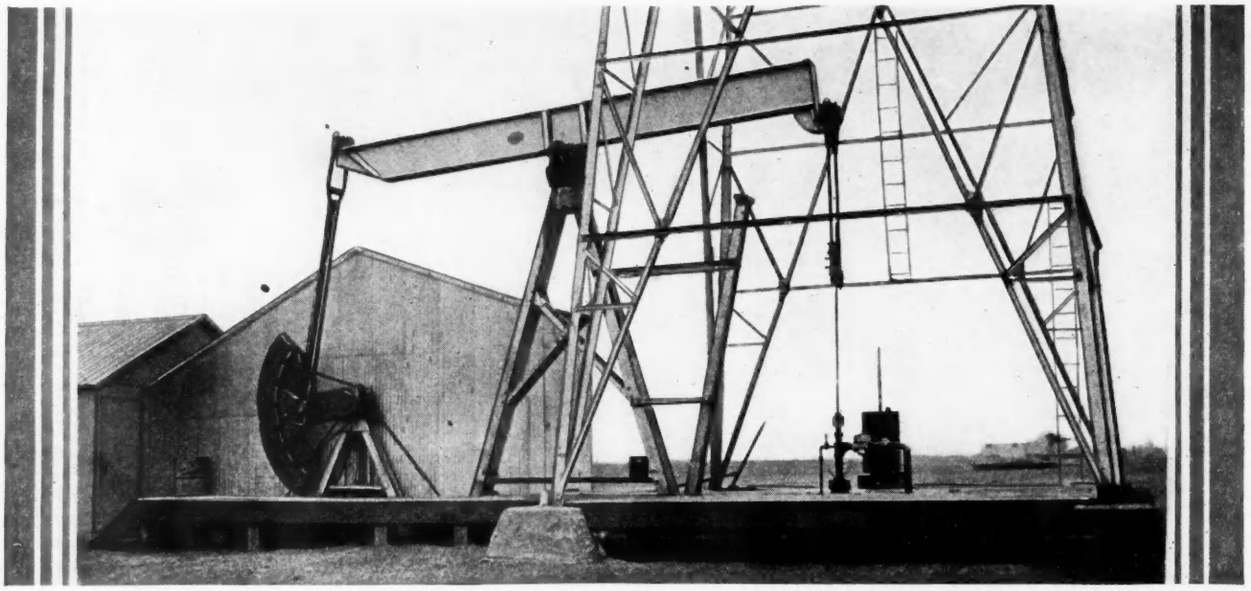

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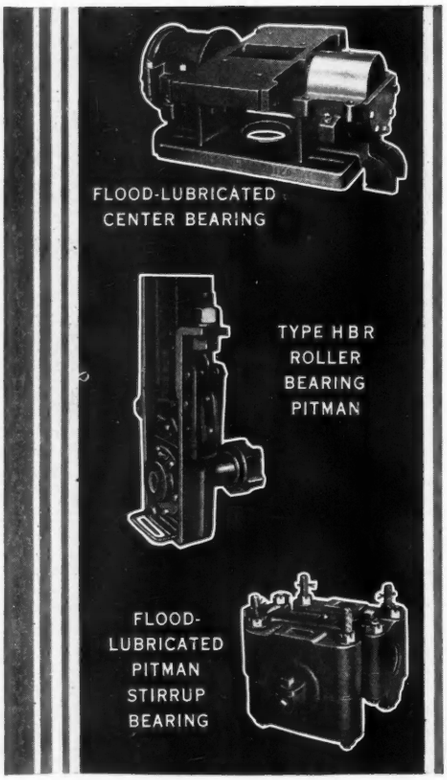

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
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ENGINEERING • NEWS • STATISTICS

WARREN L. BAKER, Editor

. . . this Week

THERE were favorable and discouraging factors in September statistics. Favorably; stocks declined further, demand continued high, and prices remained fairly steady despite unsettled California conditions. On the unfavorable side were: production running ahead of estimated market demand; and the loss of some ground by refined markets. Drilling operations declined appreciably. **Page 10.**

THE next Texas statewide proration hearing has been set for October 17. This meeting will be of special importance because of the questions to be considered. Something must be done about the Panhandle gas situation, which is far from settled. Another important phase will relate to new potential tests being taken in the East Texas field. Thus far gauged wells have shown an increase of 1.8 percent.
Page 14.

THE old Oxford pool, Sumner County, which was discovered in the spring of 1927, is back in the Kansas limelight as the result of the discovery of a deeper producing zone in which large initial flowing wells are being completed. One well flowed at the rate of 27,000 barrels daily, which is greater than any other well completed in the state. The first 11 completed deep wells had a combined potential rating of 112,000 barrels daily.
Page 43.

SEARCH for new oil fields along the Texas-Louisiana Gulf Coast is an elaborate, complex and exacting technical operation. The area is being reworked for new leads, and frequently newer methods are detailing structures, where formerly only faint indications might have been observed. Exploratory methods in use are so exacting that it is possible to map a structure lying entirely under water. **Page 21.**

A FACT finding committee has recommended that California allowable be curtailed to 590,700 barrels during the rest of the year. It also found that several fields could do much more than produce their allowable. Furthermore, stocks in California have declined 66,000,000 barrels and are not out of line, hence the new proposed allowable permit a reasonable addition to storage. **Page 12.**

OIL companies desiring to adopt voluntary trade agreements or codes have the choice of two forms of pacts, according to an Executive Order issued last week by President Roosevelt. The industry if it should adopt any code under the the provisions of the little NRA act must continue the Section 7 (a) labor provisions. However, a trade-practice agreement may be adopted through the Federal Trade Commission without this clause. **Page 12.**

ANOTHER brief, making three in all, was filed last week supporting a motion for a rehearing of the Brown versus Humble Oil & Refining Company case, in which the Supreme Court had ruled acreage should be considered in granting allowances to wells. A retrial of this case is very important, since future proration methods in Texas may be dependent upon its outcome. **Page 17.**

THE East Texas field now is five years old, having been discovered October 3, 1930. In that time it has produced 800,000,000 barrels from approximately 130,000 acres and 18,785 wells. Approximately 1100 individuals, companies and partnerships own leases in the field.

A NEW type Diesel-electric rotary rig has several interesting features besides the hook up and machinery design. It is adaptable to setting on low or high ground. The pump may be set at any convenient location. Has a speed adjustment over a wide range. Reversals may be made without de-clutching. The unit is easily manipulated. A full description appears in this issue. **Page 29.**

A COMBINATION rotary-cable tool rig that can be easily and quickly converted from one style of drilling to the other is being used in Kansas. The rig consists of two units, both mounted on one common base. On one end of the base is a unified draw works and power machinery for rotary drilling, while on the opposite end is the cable tool unit. An arrangement of clutches permit flexibility in operating the two gas engines. **Page 48.**

The Oil Man's Calendar

OCTOBER

8 — *Kansas-Oklahoma Division, Mid-Continent Oil & Gas Association, Tulsa, Oklahoma.*

10-12 — *A.I.M.E. Petroleum Division, Mid-Continent Section, Houston, Texas.*

16-17 — *American Association of Petroleum Geologists, Mid Year Meeting, Mexico City,, Mexico.*

NOVEMBER

4-5 — *Independent Petroleum Association of America, Annual Meeting, Dallas, Texas.*

11-14 — *American Petroleum Institute, Annual Meeting, Biltmore Hotel, Los Angeles. California Natural Gasoline Association, Los Angeles.*

DECEMBER

Mid-Continent Oil & Gas Association, Tulsa, Oklahoma.

MARCH, 1936

19-21 — *American Association of Petroleum Geologists, Tulsa, Oklahoma.*

APRIL

16-17 — *National Petroleum Association, Cleveland, Ohio.*

Outlook Less Bright

SEPTEMBER STATISTICS BOTH FAVORABLE AND DISCOURAGING

BY JACK LOGAN, Associate Editor

IN SOME respects September furnished encouraging statistics in the oil industry, but in others conditions were perceptibly less favorable than in August.

On the favorable side there were further reductions in the stocks of both crude oil and gasoline. Meanwhile, demand for oils held up better than expected, in the face of diminishing consumption as the vacation season ended. In consequence of effective control of crude oil and gasoline production outside of the Pacific Coast area, tank car and retail prices were only fractionally lower in September than in August east of California. Crude oil prices outside of California were unchanged, despite some anxiety during the month. It was feared that the California situation might precipitate price reductions throughout the country. But as the month ended such a development had not materialized.

On the unfavorable side of the oil situation in September, there were these factors: (1) United States production exceeded estimates of market demand by the federal government more than ordinarily, due almost wholly to California's over-production. (2) There was some loss of ground by the markets, with Mid-Continent tank car prices fractionally lower than in August, and with retail gasoline postings depressed somewhat in various sections, including the Chicago and Detroit areas and the East Coast. In California crude prices continued at the sub-normal levels established late in August, while there was further decline of product prices, wholesale and retail.

Drilling activity was in keeping with the less favorable side of the statistics for September, completions of wells having declined appreciably. The field work during the month was of smaller proportions than in either of the five preceding months. In the five weeks ending September 30, completions in the United States averaged 57.9 per day. Average completions in August had been 62.8 daily, in July 60.9 daily, in June 58.6, in May (peak of the year) 63.6 daily, and in April 58.5 daily. The September average was greater than the 48.8 wells per day completed in March. A feature of the September drilling statistics, partially accounting for the fewer completions, was a temporary reduction of drilling in the East Texas field. However, in the latter part of the month, East Texas activity was increasing again.

Nine Months' Record

Accompanying figures on drilling and crude production for the first nine months of 1935 reveal substantial gains in both respects over similar figures for 1934. Drilling activity has been particularly higher, 23 percent more wells having been completed in the first nine months of this year. Meanwhile crude production was eight percent greater, reflecting increased demand for oils.

In the first nine months this year, 15,608 wells have been completed, compared with 12,653 in the corresponding period last year. It seems assured that completions for all of 1935 will be substantially above 20,000, based on the increased drilling so far this year. In former years, preceding the depression, normal field work did not involve much over 20,000 completions annually.

Crude Stocks Decline

Despite the overproduction in California, crude production in the United States as a whole was fairly well in balance with market requirements during September. This is evidenced by the fact crude stocks were drawn upon for over 3,000,000 barrels in the first three weeks of the month. Moreover, the crude runs to stills were sub-normal to the extent that a substantial part of gasoline requirements were filled by withdrawals from storage.

As of September 21, the Bureau of Mines showed that crude stocks aggregated 306,637,000 barrels (embracing 98 percent of stocks, exclusive of lease or producers' stocks). On August 31 the corresponding stocks had amounted to 309,976,000 barrels. Complete figures for the United States stocks are available for no later than the beginning of August, when they totaled 329,351,000 barrels.

Gasoline Stocks Also Drop

During the first three weeks of September stocks of gasoline in the United States declined more than 1,000,000 barrels. They were down to 42,572,000 barrels on September 21, according to the American Petroleum Institute, as compared with 43,787,000 barrels on hand August 31. Refiners have been putting

United States Drilling and Production in First Nine Months of 1935, Compared With Similar Period in 1934

STATE OR DISTRICT	WELLS COMPLETED			BBLS. OF CRUDE PRODUCTION		
	In 1935 (9 Mos.)	In 1934 (9 Mos.)	% Change	In 1935 (9 Months)	In 1934 (9 Months)	% Change
Oklahoma	1,696	1,441	+18	135,827,050	134,262,200	+ 1
Kansas	979	698	+ 40	39,715,850	34,066,500	+16
Texas	8,857	7,343	+ 21	281,405,000	269,767,400	+ 4
Louisiana	552	567	— 3	35,544,725	22,915,600	+55
Arkansas	102	55	+ 85	8,418,175	8,541,200	— 1
Southeastern States	14	33	— 57	.....	.....	.....
Eastern States	1,833	1,480	+ 24	28,648,800	27,109,450	+ 6
Michigan	386	366	+ 6	11,021,300	7,957,200	+38
Rocky Mountain States	183	187	— 3	14,033,700	12,092,150	+16
New Mexico	220	77	+186	13,558,350	12,318,250	+11
California	786	406	+ 94	146,150,777	132,049,487	+11
Totals	15,608	12,653	+ 23	714,323,727	661,079,437	+ 8

Monthly Summary of United States Drilling and Production, September, 1935

STATE OR DISTRICT	MONTH OF SEPTEMBER, 1935						CUMULATIVE, JANUARY THROUGH SEPTEMBER, 1935					
	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.
Oklahoma	243	152	12	79	202,952	14,453,600	1,696	1,066	83	547	2,122,327	135,827,050
Kansas	145	97	4	44	153,207	4,356,550	979	691	24	264	568,200	39,715,850
Texas	1,092	790	22	280	1,600,210	31,025,550	8,857	6,604	196	2,057	23,172,954	281,405,000
Louisiana	68	24	15	29	16,925	4,435,725	552	261	69	222	128,046	35,544,725
Arkansas	6	2	....	4	295	908,400	102	41	2	59	7,764	8,418,175
Southeastern States	2	....	....	2	.....	.....	14	....	3	11	.....	.....
Eastern States	240	73	87	80	1,309	3,118,950	1,833	567	766	500	11,723	28,648,800
Michigan	81	36	15	30	55,735	1,440,700	386	199	62	125	116,863	11,021,300
Rocky Mountain States	36	31	3	2	3,396	1,663,900	183	144	10	29	45,099	14,033,700
New Mexico	30	29	....	1	88,106	1,348,250	220	171	6	43	486,312	13,558,350
†California	83	74	4	5	50,681	18,974,800	786	563	30	193	562,871	146,150,777
Totals	2,026	1,308	162	556	2,172,816	81,726,425	15,608	10,307	1,251	4,050	27,222,159	714,323,727

* Figures for September represent not the calendar month, but the five weeks or 35 days ending September 30.
† September figures are preliminary, and will be revised.

forth special efforts to hold operations within economic proportions, and the September stock reduction of gasoline reflects the success they achieved. Helping to bring about the stock reduction, however, was the better than seasonal demand during September. As compared with the 42,572,000 barrels of gasoline in storage September 21, 1935, the stocks aggregated 44,043,000 barrels on September 22, 1934. Thus the gasoline stocks situation is more favorable than a year ago.

Crude Control Slackens

Averaging 2,724,214 barrels daily during September, United States crude oil production was about 111,000 barrels per day above the level recommended by the Bureau of Mines. This excess was conspicuously greater than in preceding months. It reflected, of course, the unsatisfactory situation in California. In that state efforts continued throughout the month toward bringing crude output in line with market demand, but as the month ended success had not yet been achieved. In August the United States crude production had been only about 75,000 barrels per day more than was recommended by the federal government. In July the excess was 47,000 barrels daily.

Drilling Gains General

The drilling statistics for the first nine months of this year show increases of activity for nearly all sections of the country. New Mexico continues to show the most pronounced gain in field work. Its 220 completions in the nine months this year compare with only 77 in the similar period last year, this year's figure being nearly three times as large.

California shows the next largest expansion of drilling, having had 786 completions this year, or nearly twice as many as the 406 for the similar period last year.

Arkansas ranks third in increase of drilling. Its 102 completions so far this year are also nearly twice last year's record of 55 wells finished.

Kansas also has had a pronounced increase in field work, with 979 completions this year, compared with 698 in last year's first nine months, a 40 percent gain.

The Eastern States have had 24 percent more completions this year than last, the 1935 total so far being 1833, compared with 1480 last year.

Texas Up 21 Percent

Texas and Oklahoma have registered drilling gains about in line with the national average increase. Texas completions, numbering 8857 this year, compared with 7343 last year, are showing a 21 percent increase. Oklahoma's 1696 completions so far this year have run 18 percent ahead of last year, when there were 1441 completions up to this time.

The only districts in which drilling is running lower this year than last year are: the Southeastern States, Louisiana, and the Rocky Mountain States outside of New Mexico.

In the Southeastern States there have been this year only 14 completions, compared with 33 up to this time last year, a 57 percent decrease.

For Wyoming, Montana and Colorado as a group, completions the first nine months this year have totaled 183, compared with 187 last year, a three percent decline.

Louisiana with 552 completions in 1935, compared with 567 in the same period of 1934, shows a three percent curtailment of drilling.

Crude Oil Stocks

Bureau of Mines figures as compiled monthly, comprising all crude in storage in the country.

At End of:	Total Bbls. In Storage
August, 1933	360,001,000
September	359,979,000
October	356,885,000
November	355,614,000
December	355,394,000
	*354,305,000
January, 1934	353,642,000
February	531,641,000
March	354,067,000
April	354,350,000
May	355,883,000
June	357,239,000
July	355,260,000
August	350,838,000
September	348,937,000
October	346,415,000
November	341,165,000
December	337,254,000
January, 1935	338,174,000
February	337,319,000
March	339,139,000
April	339,793,000
May	338,559,000
June	334,757,000
July	329,351,000

*On revised basis, 1,089,000 barrels having been transferred from crude to fuel oil in California.

Trend of stocks situation since end of July, figures being from weekly reports to Federal government, embracing 98 percent of total stocks, excluding those of producers.

July 27	314,335,000
August 31	309,976,000
September 21	306,637,000

United States Production

(Based on American Petroleum Institute estimates, which do not include oil which may have been surreptitiously produced.)

MONTH	Daily Average (Barrels)	Federal Estimate of Demand
August, 1933	2,748,100	
September	2,568,250	2,413,700
October	2,392,900	2,338,500
November	2,267,243	2,338,500
December	2,266,426	2,210,000
January, 1934	2,233,505	2,183,000
February	2,239,070	2,183,000
March	2,339,950	2,282,800
April	2,420,950	2,366,200
May	2,575,380	2,366,200
June	2,588,100	2,528,300
July	2,560,550	2,530,300
August	2,475,300	2,449,300
September	2,431,950	2,341,700
October	2,364,150	2,325,800
November	2,375,400	2,340,300
December	2,414,600	[1]2,307,000 [2]2,460,300
January, 1935	2,500,850	2,460,300
February	2,521,250	2,526,100
March	2,568,800	2,520,300
April	2,559,750	2,527,300
May	2,601,350	2,561,200
June	2,695,100	2,651,000
July	2,707,150	2,660,000
August	2,676,250	2,600,600
September	[3]2,724,214	2,613,000

[1]December 1–16.
[2]December 17–31.
[3]Preliminary subject to revision.

Motor Fuel Stocks

(American Petroleum Institute figures, as shown in weekly reports)

DATE	Motor Fuel Stocks, Bbls.
September 9, 1933	50,913,000
September 30	50,457,000
October 28	52,727,000
November 25	51,934,000
December 30	51,580,000
January 27, 1934	50,229,000
Feburary 24	55,976,000
March 24	57,879,000

After March 24, 1934 figures shown represent stocks of finished gasoline, to be marketed as motor fuel, including natural gasoline which has been blended, and gasoline made from refinery still gases.

March 24	57,011,000
March 31	57,098,000
April 28	56,011,000
May 26	54,493,000
June 30	51,405,000
July 28	48,597,000
August 25	46,120,000
September 29	43,850,000
October 27	41,993,000
November 17	*39,892,000
December 1	40,831,000
December 29	43,969,000
January 26, 1935	47,888,000
February 23	54,399,000
March 2	55,654,000
March 30	56,388,000
April 27	55,097,000
June 1	53,180,000
June 29	50,007,000
July 27	48,157,000
August 31	43,787,000
September 21	42,572,000

*Low point of year.

Wells Completed in the United States

(Including oil wells, gas wells, and dry holes)

MONTH	Daily Average
January, 1933	30.0
February	30.6
March	26.6
April	25.5
May	25.6
June	21.1
July	23.1
August	30.7
September	36.5
October	40.9
November	46.9
December	47.7
January, 1934	39.7
February	38.1
March	40.6
April	44.0
May	50.7
June	51.5
July	53.6
August	51.3
September	43.2
October	49.6
November	49.9
December	48.3
January, 1935	47.9
February	49.6
March	48.8
April	58.5
May	*63.6
June	58.6
July	60.9
August	62.8
September	57.9

†Highest since July, 1930, when completions averaged 76.6 daily. Average dropped in August, 1930, to 52.4 and remained below that figure until July, 1934.

California Market

COMMITTEE SETS ALLOWABLE AND FINDS CONDITIONS ARE HOPEFUL

LOS ANGELES

A SPECIAL fact finding committee named by the Emergency Board of Independent California Producers has reported that production in the State of California should not exceed 590,700 barrels daily during the months of October, November and December. The Emergency Advisory Board adopted the report of the committee, and the same action was taken by the Board of Directors of the Oil Producers Agency of California.

Open Seven Fields

It also was decided that seven fairly well settled fields of the state hereafter would not be asked to curtail and each field was given an allotment that checks very closely to actual potential of such fields. These fields and their new daily allowable for the next three months, including October, follow:

Long Beach	75,000
Santa Fe Springs	45,000
Huntington Beach	46,190
Playa del Rey	18,150
Mountain View	35,170
Alamitos Heights	2,025
	221,535

All the fields mentioned, other than Mountain View, are in the Los Angeles Basin, and as the state is to file suits in a few days against operators at Mountain View charging waste of gas, this field will naturally curb production to the new allowable. In fact, the new allowables for the above mentioned fields in very close to the actual possible production of each field.

Storage in Line

It is the sense of the various committee reports that present storage in California is not altogether out of line and the reports indicate a feeling that storage should be permitted to show a reasonable increase during the winter months, hence new proposed allowable production figures permit a reasonable addition to storage.

The report shows that storage of all petroleum products on March 1, 1930, was 187,152,667 barrels and that this had declined to 120,443,476 barrels by September 1, 1935; representing a decrease of 66,709,191 barrels. The largest portion of this decrease was in fuel oils (heavy crudes), which declined 47,529,816 barrels. The only increase was 420,760 barrels in natural gasoline.

The report of the committee shows that despite the marked increase in production immediately after the termination of the petroleum code, stocks of crude petroleum in California increased only 260,871 barrels during the three-month period of June, July and August, 1935. Moreover, an appreciable increase in the average daily demand more than offset this stock increase, with the result that on September 1, 1935, excess stocks amounted to only 688,198 barrels, fractionally more than one day's supply.

Gasoline stocks were reduced a total of 1,452,100 barrels during the three month period, while the average daily demand for the preceding 12 months prior to September 1, 1935, increased appreciably over the like demand as of June 1, 1935. The result is that on September 1, 1935, actual stocks of gasoline were less than the calculated economic level; the calculated deficiency being 91,627 barrels, approximately one half of one day's supply.

A comparison of total stocks in barrels of petroleum products in the Pacific Coast territory as of March 1, 1930, with the stocks of September 1, 1935, are shown in Table 1.

After 5½ years of curtailment, it may be concluded that the first objective of the movement has been reached, to-wit: stocks of the principal petroleum products have been reduced to economic limits.

In the preparation of the estimate for California daily crude oil production for the remainder of the year, the committee projected recent trends into the future. It is anticipated in this estimate that during the period an average of 8,900 barrels of gasoline will be added to stocks daily, and that there will be no net withdrawals from nor additions to refinable crude stocks during the period. If this schedule is observed, the committee estimates that the stocks of all other products (principally fuel oil) will be drawn upon at the average rate of 11,000 barrels daily.

A.P.I. BANQUET

Unusual program being planned for oil men

LOS ANGELES.

A PROGRAM of unusual interest is being prepared for the annual dinner of the American Petroleum Institute to be held at the Biltmore Hotel in Los Angeles, Wednesday evening, November 13. The master of ceremonies will be a nationally known figure and a stupendous show will be staged.

Plans call for an amusement program to run continuously throughout the dinner with a varied schedule of vaudeville headliners, screen stars, stage and radio personalities contributing. In addition, a nationally famous orchestra has been secured to provide music for the occasion. A number of special stunts are also being prepared for the program which will portray some of the more humorous sidelights of the industry, its leaders and outstanding personalities.

The dinner is to be formal and the seating capacity of the Biltmore Bowl will limit attendance to about 1200. Since registration at the Convention is expected to exceed 3500 members, a scramble for banquet seats is expected.

TABLE 1

California Petroleum Stock Situation

	March 1, 1930	Sept. 1, 1935	Decrease
Refinable Crude	43,370,600	33,494,098	9,876,502
Fuel Oils—heavy crude	112,341,479	64,811,663	47,529,816
Gasoline: Gasoline and Engine Distillate	16,260,485	9,975,845	6,284,640
Natural Gasoline	1,711,587	2,132,347	420,760*
Crude Gasoline and Naphtha Distillate	2,056,591	1,370,688	685,903
All other Stocks	11,411,925	8,658,835	2,753,090
Total Stocks	187,152,667	120,443,476	66,709,191

*Increase.

INDUSTRIAL CODES

Two forms of agreement pacts may be selected

WASHINGTON, D. C.

MEMBERS of the oil industry who are considering the adoption of a voluntary trade agreement were the past week given their choice of two forms of pacts under an Executive Order issued by President Roosevelt, regulating the procedure to be followed by the Federal Trade Commission in the negotiation of codes.

Any voluntary code adopted under the provisions of the resolution passed by Congress last June, extending the NIRA until April 1, next, it was ruled, will have to contain labor provisions such as were embodied in the controversial Section 7(a) of the original recovery act, guaranteeing to employes the right to bargain collectively, providing for minimum wages and maximum hours and prohibiting child labor. In return for this concession, parties to such codes will be exempted from the penalties of the anti-trust laws, including criminal prosecutions, injunctions and treble damages, to such extent as is possible under the NRA legislation as amended.

Industries which do not wish to subject themselves to the labor provisions, however, may submit to the Federal Trade Commission a trade-practice agreement for consideration by the commission under its trade practice conference procedure, rather than under NIRA, but such agreements will not carry the exemptions conferred upon voluntary codes. On the other hand, trade practice agreements need not include labor provisions.

With the issuance of the Executive Order, the National Recovery Administration, for months practically out of the picture because of the Supreme Court decision last May in the Schechter case, invalidating the codes, may again achieve a position of prominence, since it is charged with the duty of

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This photograph shows you why the Goodyear COMPASS (Cord) Endless* Belt stands alone on heavy-duty oil well drives where stretch and breakage mean costly delays. It has no splice! The load is carried by a layer of heavy endless cords, spiralled continuously—a patented Goodyear construction that is PRACTICALLY STRETCHLESS! The cords are encased in a sturdy fabric envelope, double on pulley side, that takes the surface wear. No more flexible belt is made—even on high-speed drives COMPASS often lasts up to 10 times longer than other belts. And every COMPASS is individually specified to your drive, in the correct size and weight, by the G. T. M. — Goodyear Technical Man — to insure perfect performance. Let this practical belting expert advise you — write Goodyear, Akron, Ohio, or Los Angeles, California — or the nearest Goodyear Mechanical Rubber Goods Distributor.

*Goodyear Compass Belts can also be vulcanized endless right on the job.

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passing upon the labor provisions of any voluntary codes which may be proposed. Upon receipt by the Federal Trade Commission of an application for such a code, the labor section is to be referred to the NRA, where is will be handled in much the same way as were the original codes. A labor advisory unit and an industrial advisory unit are to be set up in conference with the Departments of Labor and Commerce, and open hearings are to be held.

The trade commission this week made public the first agreement to be negotiated by it under the new procedure, covering the wholesale tobacco industry. This agreement, which contained no labor provisions, listed a number of practices as unfair when adopted to harass competitors, including the use of "loss leaders," selling below cost, price discrimination as between purchasers, imitation of trade marks or trade names, misbranding or misrepresentation, defamation of competitors, secret rebates, the giving of gratuities to employers of customers or competitors' customers, and inducing breach of contract.

Under Group II rules, which are accepted merely as expressions of the industry and are not enforceable by the commission, the tobacco trade condemns evasion of the payment of state taxes through interstate transactions.

Announceemnt of the regulations brings to the fore the clear-cut issue between voluntary codes and trade agreements and may have a direct effect upon the President's plans to ask Congress for new NRA legislation next session.

A majority of the industries have been represented as being opposed to any further labor control, although more or less receptive to the idea of trade agreements. Following the announcement last spring that the trade commission would negotiate agreements, some 200 inquiries as to procedure were received. When it appeared, however, that labor provisions would be required, interest waned and only a score of industries made formal application for trade pacts.

The offer by the President of either a voluntary code containing labor provisions or a trade agreement without such conditions is seen by some observers as an effort to initiate a campaign to build up public opinion behind new NRA legislation. An outline of the President's plan was made public shortly before the adjournment of Congress when he wrote to the chairmen of the Senate finance and House ways and means committees, asking them to consider a new measure for presentation at the opening of Congress in January.

The reaction to that suggestion, it is admitted, was anything but satisfying to the administration, and before leaving for his western trip President Roosevelt made it known that upon his return he would seek industry's views as to the form such legislation should take.

Coming . . .

Rocky Mountain Crude Oil Reserves

No question is so important to the petroleum industry today as "What is the future crude oil reserve status of the United States?" In keeping with its previously announced editorial plan of thoroughly covering this subject, THE OIL WEEKLY announces the coming publication of a series of two articles on the crude oil reserve status in the Rocky Mountain district, comprising the states of Montana, Idaho, Wyoming, Colorado, Utah, Northwestern New Mexico and Northeastern Arizona. This series, fully illustrated with maps and charts, represents an authoritative and comprehensive discussion written

By W. W. BOYER
Consulting Geologist,
Casper, Wyoming

IMPORTANT HEARING

Texas statewide hearing set for October 17

AUSTIN

THE Texas statewide proration hearing, covering both oil and gas, has been set for October 17 at Austin.

The Railroad Commission will have before it several important questions involving new orders recently issued.

The Panhandle gas situation is far from settled. The current orders on sweet gas are enjoined in certain sections of the field and offset operators are suffering drainage as a result.

At the September hearing Phillips Petroleum Company urged the commission to allow operators of offsetting leases which are producing under injunctions to produce gas at the same rate the injunction wells are allowed to flow.

No official order was issued in compliance with this request but the commissioners recognized the injustice of the situation as it affected those operators who sought to comply with commission regulations.

Colonel Ernest Thompson, commission chairman, pointed out that should the commission issue such an order the conditions might readily spread from lease to lease and ultimately the entire Panhandle field would revert to its status prior to the time proration was attempted.

Don Emory, Phillips Petroleum Company attorney, who advocated this plan, expressed the opinion that such a situation would not result so far as his company was concerned, but was unable to determine whether other leases would be affected in a like manner.

On October 1, the first sour gas order promulgated by the Texas Railroad Commission in compliance with the provisions of House Bill 266 became effective. This resulted in a material reduction in the outlet of wells which had been diverting much of their gas to the carbon black plants.

The commission is making an effort to furnish the additional gas necessary for carbon black operations from oil wells with high gas-oil ratios. By this means it is planned to divert all gas to some useful purpose and eliminate completely the practice of blowing gas into the air.

Injunctions restraining the enforcement of the sour gas order were anticipated but none had been obtained late last week. Two groups of operators with production in the sour gas area were in Austin to confer with commission gas engineers concerning revision of the order, and each of these indicated that they planned to attack the order in the courts unless the revisions sought were granted.

East Texas Potential

Another important phase that will be developed at the hearing will relate to the new series of potential tests ordered in the East Texas field.

At the September hearing evidence was introduced showing that the potential map used by the commission in East Texas had been altered in such a manner that it did not truly reflect results of the old potential tests. For this reason the commission ordered new potential tests on the 66 wells in the field.

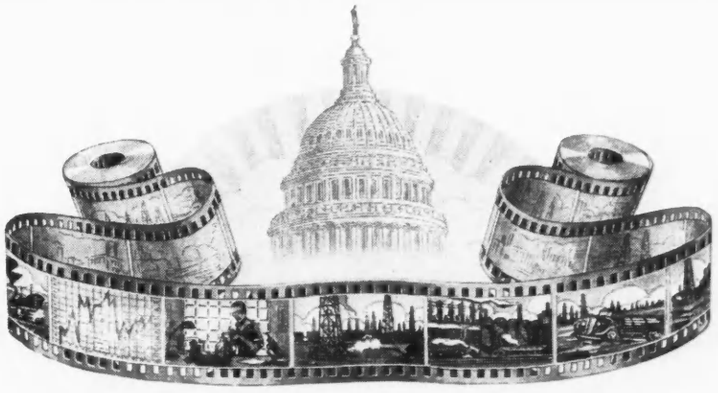
Gordon Griffin, chief petroleum engineer for the commission, was instructed to proceed with these tests and have the complete data available for the October hearing.

The map reflected an increase in potentials in certain areas of the field and many operators were of the opinion that new tests would show a material potential decline.

However, completions of tests on five wells widely scattered over the area indicated an increase of approximately 1.8 per cent in the average potential of these wells. If these tests prove to be a fair indication of conditions throughout the field it is expected that an average increase of one per cent in the field potential will result.

Griffin pointed out that this would be a normal result since bottom-hole pressure tests have risen about one percent in the past year. He explained that the other factors affecting well potentials were relatively the same, including sand thickness, prorosity, permeability, and size of the opening through which the test is made.

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by JACK LOGAN, Associate Editor

THIS week's developments in the oil industry will include the October 10-12 meeting of the Mid-Continent section, petroleum division, of the American Institute of Mining and Metallurgical Engineers at Houston, Texas. Also there will be October 8 an annual membership meeting of the Kansas-Oklahoma division of the Mid-Continent Oil & Gas Association at Tulsa, Oklahoma.

The past week brought to light some more encouraging figures on earnings of oil companies and of oil field equipment manufacturers, as well as on general results in the industry during September. The oil markets were mostly unchanged, continuing depressed in California and comparatively favorable elsewhere. Politics remained in the oil picture, with the Texas legislature considering new taxes on the industry.

Better Earnings Reflected

Improved earnings and better financial conditions in the petroleum industry have been reflected lately by action taken by two oil companies with regard to dividend payments and redemption of bonds.

DIVIDENDS DECLARED.—Barnsdall Corporation on November 1 will pay a quarterly dividend of 15 cents and an extra of five cents, to holders of record October 10. The payments will be the first cash disbursements of the concern since May, 1931, when 25 cents was paid.

Phillips Petroleum Company on November 30 will pay to stockholders of record November 1 a quarterly dividend of 25 cents a share and an extra disbursement of 25 cents, after having paid previously 25-cent dividends that were not designated as quarterly payments.

BONDS CALLED.—When it announced the dividends, the Phillips Petroleum Company also called for redemption December 1, 1935, all its funded indebtedness of about $20,000,000 of 5¼ percent debentures, due June 1, 1939. For redeeming the bonds, the company will place privately $15,000,000 of eight-year serial notes and draw upon cash in its treasury.

MORE PROFIT THIS YEAR.—Behind the moves of Phillips Petroleum Company on dividends and bonds was the fact the concern's earnings have been running at the highest levels since 1929. This year's profits have been more than double the corresponding results last year, with both prices and volume of sales higher. For the third quarter of 1935, just ended, the company is expected to show net profit of about $1 a share, compared with 41 cents in the like period last year. In the first six months this year the company earned net profit of $5,019,975, or $1.21 a share on 4,153,234 no-par shares, compared with $2,510,-157, or 60 cents a share, in that period last year.

Favorable Statistics Past Month

Despite overproduction in California, and accompanying sub-normal crude and refined oil prices there, the American oil industry as a whole had generally satisfactory operations again in September. Outside California prices of both crude and refined oils continued comparatively favorable. Mid-Continent tank car prices on gasoline remained around a full cent above quotations of a year previously.

The prices reflected continued effective control of wells and refineries east of California. Such control was sufficiently successful to bring about substantial reductions in the stocks of both crude oil and gasoline in meeting market requirements. The stocks came down, moreover, in the face of seasonally diminishing oil consumption, as vacation motoring became more rare.

CALIFORNIA MARS OUTLOOK.—While the prices outside California held up surprisingly well, there arose in the latter part of September some market anxiety over the prolonged unsatisfactory conditions on the West Coast. Fear was felt that the California situation might result in nationally lower prices unless corrected soon.

Although California producers have continued efforts to adopt voluntary proration, the state's output of crude has continued far above indicated market requirements. And stabilization of the industry in

the state still has not been assured for the near future.

DRILLING STILL EXTENSIVE.—Drilling decreased somewhat in September, but was still comparatively high, well completions averaging 57.9 daily, compared with 62.8 daily in August. In the first nine months of this year, completions have run 23 percent ahead of last year's similar record, numbering 15,608 as compared with 12,653 in last year's first nine months. For all of 1935, completions apparently will total between 20,000 and 21,000 wells. Such a total will be around the normal annual average for the pre-depression years.

California Market Stronger

Premiums are being offered for light gravity crude in California over the present posted price, the head of a large California producing company told THE OIL WEEKLY during the week. "We have been offered a premium of 40 cents per barrel for our oil and I have no doubt that other producers could get the same premium," he said. This same executive said that some of the California fields, under a wide open flow had failed to make anything like the potential which had been expected. Gasoline stocks are low and there is little likelihood of the California situation having any material effect on Mid-Continent or Gulf Coast markets, he indicated.

"What is wrong with California?" he was asked.

"I think that the executives of some of the large companies in California are suffering from an exaggerated false pride," he replied.

Refineries Being Improved

The refining branch of the oil industry is currently carrying on a sizeable program of plant construction and rehabilitation. The work involves important activity in foreign countries and the United States.

A survey recently made by THE REFINER, published by publishers of THE OIL WEEKLY, indicates that since the beginning of this year the industry throughout the world has finished, started construction of, and contracted for new projects and improvements involving total cost of approximately $49,000,000.

The total included 76 installations in the United States at estimated cost of $29,000,000, and 30 installations in foreign countries at cost of $20,000,000.

These figures mean that a comparatively large amount of such rehabilitation is in progress.

IMPROVEMENTS AFFECT FINANCES.—It was brought forcibly to the attention of the industry and the public some months ago that the industry must make important expenditures for refinery improvement. The occasion was the action of Socony-Vacuum Oil Company, Incorporated, in placing the common stock on a 30-cent annual dividend basis, cutting in half the rate in effect during 1934. Previously, the management had indicated that more conservative dividends were in prospect, due to the necessity for spending large sums for modernizing plants.

NEW PROCESS SPREADING.—Aside from replacement of old equipment, refiners are obliged to put in new equipment for carrying out advanced processes.

A process of recent development now being heard about a lot is the catalytic polymerization process. Pan-American Refining Corporation, subsidiary of Standard Oil Company (Indiana), last week announced contract for construction of such a plant at its Texas City, Texas, refinery. Phillips Petroleum Company is using the process to advantage. It is also employed by the Shell interests.

Through the process involved, waste gases at refineries are converted into high anti-knock gasoline. The latter can be used to particular advantage for blending with ordinary gasoline to improve the anti-knock quality.

Polymerization may be described roughly as the opposite of cracking. It converts gases into gasoline, making motor fuel from the light ends that formerly went to waste. In contrast, heavy oils, formerly of secondary value, are converted by cracking into the more valuable gasoline.

Foreign Buying of Oil

The market for low gravity oil from Southwest Texas has been materially strengthened lately by several foreign contracts for oil from the Mirando and Samfordyce areas—the buyers having included the Italian government and private corporations.

Oil from the district is used in the raw state for fueling Diesel engines. It is currently in strong demand also for meeting seasonally rising consumption of fuel oil.

One major company is supposed to have sold to an independent outlet about 500,000 barrels of the Southwest Texas crude, to be delivered at tidewater at the rate of 4000 barrels daily. Stocks at tidewater in the district have been materially reduced—and at some ports virtually depleted.

Predictions have been offered, consequently, that the former price of 80 cents a barrel for the Southwest Texas crude will be restored. The posting was cut several months ago to 75 cents, due to oversupply. Higher allowables for the district are also considered somewhat likely.

More East Texas Drilling

Drilling has been increasing lately in the East Texas field. The area is expected to have over 20,000 producing wells by the end of the year.

An influence promoting drilling has been the stand taken by the railroad commission, favoring continuation of the present plan of prorating the field strictly on the basis of well potentials. The commission has been urged by some companies to change to a plan that would also consider acreage. Under the latter plan, more drilling would be discouraged.

New Proration Head

Uncertainty over supervision of East Texas proration was terminated September 30, when Chairman E. O. Thompson of the Texas Railroad Commission, announced that Captain E. N. Stanley next day would replace Harry A. Miles as chief of proration in the field. Miles resigned to accept another position. Stanley was East Texas proration chief previously for two years, resigning last spring. About two weeks ago Stanley declined to resume the post, for financial reasons; but he was pressed into reconsidering.

Marring the appointment are previous instances of friction between Captain Stanley and two other men in prominent roles in East Texas proration enforcement: Attorney General William McCraw and Tucker Royall, chairman of the state tender board in East Texas. McCraw was quoted last week, previous to the appointment, as saying, of Stanley: "I'll certainly do my duty, but I don't see how I can work with him." Also, McCraw and Chairman Thompson of the railroad commission were quoted as having spoken "with some frankness" to each other.

WOULD INCREASE TAX

Texas production tax bill calls for big increase

AUSTIN.

THE House Committee on Revenue and Taxation has approved a bill providing for a 25 percent increase in the gross production tax in Texas. The vote was nine to four.

The measure would levy a tax of 2½ cents per barrel on oil until the price exceeded $1, and 2½ percent of the value thereafter.

This measure, House Bill 37, was originally intended to increase the tax to six cents per barrel and six percent of the value when oil was worth more than $1.

It was referred to a sub-committee early last week, and a report was turned in providing for a graduated tax based on the number of barrels produced daily from the individual well.

Oil from wells producing 10 barrels per day or less would be taxed two cents per barrel or two percent of the value after oil reached $1; oil from wells producing 10 to 20 barrels per day would be taxed three cents per barrel or three percent of the value after the price reached $1; oil from wells producing in excess of 20 barrels would be taxed four cents per barrel or four percent of the value after the price reached $1.

Representatives of operators in the stripper well area protested that the graduated scale proposed would ruin the stripper area because a separate tank to measure production from each well would be required, they said. This may have influenced the committee to abandon the graduated tax.

The bill provides that the income from the tax shall be diverted 25 percent to the school fund and 75 percent to the fund for old age pensions.

NOT RELIEVED

Firms making contracts under code are bound

WASHINGTON, D. C.

MEMBERS of the oil industry having contracts with the United States Government, entered into during the life of the oil code and not yet completed, are not relieved by the decision of the United States Supreme Court in the Schechter case from strict observance of the terms of the code, according to a ruling by Comptroller-General McCarl made public October 1.

McCarl's ruling is directly contrary to an opinion rendered following the decision by Frank Healy, division administrator of NRA in charge of the government contracts division, in which he held that since contractors no longer were subject to codes of fair competition, they could not be held to compliance with code requirements.

"The rights and liabilities of contractors with the United States, under obligations and contracts voluntarily assumed and involving compliance with applicable codes of fair competition, are not affected by the decision of the Supreme Court of the United States in the case of Schechter Poultry Company, et al, holding unconstitutional the code provisions of the National Industrial Recovery Act," McCarl ruled.

Observers point out that since the government contracts provided that the contractors would operate in compliance with their codes, without specifying that such compliance should be given only in connection with production or service for the government, the Comptroller-General's ruling might be construed as requiring contractors to continue to observe the outlawed codes, not only with respect to their government business but in their commercial operations as well.

There are said to be a considerable number of contracts still in effect which come under the McCarl decision, but it was not made clear in the ruling whether it is his intention to compel general compliance with code requirements by anyone having a government contract.

NEW SPACING BRIEF

Filed to support motion for Brown case retrial

AUSTIN

JOHN BOYLE, San Antonio attorney representing the State Board of Mineral Developments, has filed an amicus curaie brief in the case of C. H. Brown versus Humble Oil & Refining Company.

Boyle's brief is in support of the motion for rehearing which is now pending before the court in this suit.

He takes the position that the dicta of the court in the opinion handed down last May will not be binding, except as it is applied to the specific well in the Brown case. He declared that the literal application of the rulings laid down by the court would mean an annual loss in royalties to the state school fund amounting to $350,000 a year, leaving only revenue from this source.

Boyle also relied on the argument advanced in other briefs filed to the effect that it was impossible to determine with any degree of accuracy the amount of oil in place in any oil field and found that it was still more difficult to determine how much of this could be recovered.

Decision Misunderstood

Interesting quotations from the Boyle brief are set out below:

"It has been the declared policy of the state in order to secure development of oil within public school lands, to require lessees of such land to promptly begin offsets whenever oil is produced on an area privately owned when such well is within 1000 feet of the area leased by the state. By reason of this policy public school lands have been closely drilled and the school fund is enjoying a large revenue . . .

" . . . We do not understand that the opinion rendered warrants the construction placed upon it by the attorneys for the major oil companies, as this court stated, the main question was the construction of Rule 37, and the court denied the power of the Commission to grant a second well on this tract . . . while the opinion herein reviews at length the history of legislation . . . exercise of police powers . . . power of commission . . . we do not understand that these questions were necessarily involved. If we are right, the opinion expressed by the court with reference to these matters is dicta . . .

"Assuming that the entire opinion has the force of adjudication we insist that it is unfair to this court to contend that the opinion destroys or impairs property rights which arise out of the law of capture and which have been in effect during the many years of development of this vast industry within the state.

"This court specifically states that the rule of capture gave the right to produce all the oil and gas that will flow out of a well limited only by the physical possibility of the adjoining landowner diminishing the oil by exercise of the same right of capture. In the face of this positive declaration of the court how can it be contended that the opinion constitutes a mandate to the Commission to change the method of proration?

"This court recognizes that the police power can be exercised only in the public interest . . . that the legislature has defined the public policy . . . in the face of these clear enunciations of the law how can it be contended this court has declared a new rule of property . . . the power to adjudicate rights as between two land owners?"

STANLEY APPOINTED

Enforcement officer in East Texas field

AUSTIN

CAPTAIN E. N. STANLEY has been named chief enforcement officer for the Texas Railroad Commission and placed in charge of the East Texas field. Stanley took over the work on October 1, coincident with the resignation of Harry A. Miles. The announcement was made on September 30.

This announcement ended a long period of uncertainty concerning the Commission's plan for replacing Miles. On the day that he resigned, Miles wired Augustine Cellaya, chairman of the Legislative Hot Oil Committee to the effect that he had not resigned, but that when he returned to the East Texas field at the end of his vacation he learned "by inference" that he was not to assume charge of the field.

RESTRAINING ORDER

Temporary injunction is given in Texas gas case

DALLAS

A TEMPORARY order restraining the State of Texas from enforcing its recently applied gas conservation measure in the Texas Panhandle was granted to Portland Gasoline Company, Pampa, by Federal Judge William H. Atwell on October 2. The tempopany, Pampa, by Federal Judge William the Railroad Commission and the attorney general from interfering with the company's operations until a show cause hearing is held at Amarillo on October 10 before Federal Judge James C. Wilson. Plaintiff will seek a permanent injunction at this scheduled hearing, then the case will likely be tried on its merits.

Panhandle gasoline plant operators and producers that are opposed to the new gas conservation laws, which became effective on August 1 in the sweet gas areas and on October 1 in the sour gas belt, will likely follow the Portland Gasoline Company's court action and apply for court relief.

Judge Atwell authorized the complainant to produce up to 25 percent of the potential daily yield of its sweet gas wells, situated in the west portion of the Panhandle, and all other wells served by its gathering lines. The order permits the company to utilize this gas for stripping in a gasoline plant without complying with the State's regulations governing disposition of the residue.

MEN IN THE INDUSTRY'S NEWS

A. W. "TOMMY" THOMPSON of Mandeville & Thompson, drilling contractors, has opened an office at 923 Shell Building, Houston. He has been residing in Houston for sometime, but has not maintained an office.

HARRY PENNINGTON of San Antonio, Texas, well known independent producer and petroleum engineer of the Gulf Coast country, is touring Continental Europe after having visited points of interest in Great Britain.

SALVADOR DEL RIO of the production engineering department of Huasteca Petroleum Company at Cerro Azul, State of Veracruz, has returned to Mexico after a two months' trip to Columbia, South America. He made the journey both ways by plane.

EDWARD T. MERRY and V. C. Perini, Jr., members of the firm of Merry Brothers & Perini, Inc., have transferred their headquarters from San Angelo to Abilene, Texas, owing to the latter city offering a more centralized location for their field operations. H. R. Merry, third member of the firm, is in charge of its Houston office.

D. E. LEGAN, superintendent of production for Tide Water Oil Company, Houston, headed a party of operators and contractors that returned to Texas the past week from a hunting trip to the Jackson Hole country in Wyoming that netted six elk, six moose and a big bear. Others in the party included: Arch Rowan, Fort Worth; Harry Bass, Dallas; R. Y. Smith and A. T. McDannald, Houston; and Bill Coplin, Tyler.

E. C. STEWART, secretary of Twin State Oil Company, will represent the Oklahoma employes of Sun Oil Company in the annual J. Edgar Pew golf tournament to be held in Beaumont during this week. This is the second time Stewart has won the Oklahoma elimination tournament.

JOSEPH MORERO, chief geologist for Skelly Oil Company, left Tulsa early in the week for a business trip.

GEORGE F. NOVAK, field engineer for the oil properties controlled by Sam Katz and associates of Tampico, Mexico, is on a vacation in Chicago.

FRANK R. HARRISON, accountant with Mexican Gulf Oil Company, has returned to Tampico after a vacation spent with relatives in Houston.

PHIL MARTYN, chief geologist for Houston Oil Company of Texas, is leaving shortly for Mexico City, where he and his family will spend their vacation. Martyn also will attend the joint Mid-Year meeting of the American Association of Petroleum Geologists and San Antonio Geological Society, which takes place in Mexico City, October 16 to 19.

G. G. ROBERTS, manager of the refinery of Cia. Mexicana de Petroleo "El Aguila" S.A. at Tampico, is in Mexico City on a business trip.

T. R. "TED" GOEBEL, executive assistant of Skelly Oil Company, was elected president of the Technical Club of Oklahoma in its annual dinner meeting held in Tulsa on Monday, September 30. He succeeds J. A. Lupfer, Worthington Pump and Machinery Corporation.

M. A. PELISSIER of France, general manager of Pechelbronn, S.A.E.M., recently was made an officer of the Legion of Honor.

JOE MEEHAN has been transferred to Mount Pleasant, Michigan, from the office as office manager of Pure Transportation Company. He succeeds Frank DiRanna, office manager here for the past three years. DiRanna was transferred to the Chicago offices.

HARRY LEYENDECKER, chief scout for Tide Water Oil Company, Houston, became the father of a seven and half pound baby boy on October 1, 1925.

THEO. A. MORGAN, director of the oil and gas conservation department of the Kansas Corporation Commission, was a recent business visitor in the Oklahoma Corporation Commission office in Oklahoma City.

J. L. WARNER, geologist in northeastern Mexico for Mexican Sinclair Petroleum Company, is reported to be developing a new hobby: horsemanship. Recently he was forced to return to McAllen, Texas, partly by horseback, when flooded roads south of Victoria, Tamaulipas, Mexico, prevented his reaching Soto La Marina, where he had planned to work.

FRANK A. DENKER, treating engineer for Dowell Incorporated, has been transferred from Seminole, Oklahoma, district, to Midland, Texas.

JAMES E. "JIM" DOUGLAS, drilling superintendent of Huasteca Petroleum Company (Standard Oil Company of New Jersey) in the Ebano field, State of San Luis Potosi, has returned to Mexico after a two months' absence in Texas. He spent several weeks in Houston, attending the classes of controlled directional drilling, supervised by executives of Eastman Oil Well Survey Company, and also visited several of the Humble Oil & Refining Company's fields in Texas.

R. S. HUFFMAN, personnel director for Oklahoma Natural Gas Company, is the new president of the Mid-Continent Petroleum Safety Council succeeding J. H. Savage, Mid-Continent Petroleum Corporation.

OSCAR B. FRANKS, assistant cashier of Venezuela Gulf Oil Company at Maracaibo, is enroute to Venezuela, after spending a vacation with his family in San Antonio, and visiting friends in Houston and New York. Prior to going to Venezuela in 1933, Mr. Franks was, for many years, cashier of Mexican Gulf Oil Company at Tampico.

CLYDE WAGNER, consulting geologist of Oklahoma City and Colorado geologist for Ramsey Petroleum Corporation, is spending several weeks in Tulsa undergoing medical treatment.

OTTO van ROSSUM, geologist with Mexican Gulf Oil Company at Tampico, is spending a vacation in Mexico City, and at various points on the West Coast of Mexico.

HARRY GUSTINE of Houston, attorney for the Gulf Companies for 14 years, was killed October 1, when the car he was driving overturned near Mount Enterprise, Texas. Mrs. Gustine also was in the automobile, and was injured critically. Surviving Mr. Gustine, in addition to his wife, is a daughter, Mary Anne Gustine of Houston; two brothers, Richard and Lemuel Gustine, both of Shreveport.

MESSRS. B. M. GROVER, J. G. Rutherford and D. MacQueen are new appointments to the staff of Anglo-Iranian Oil Company in Iran. These three gentlemen will be located at Masjid-I-Sulaiman.

J. A. CUMMIN, Mid-Continent manager for Dowell Incorporated, has returned to Wichita, Kansas, from a three weeks combination business and vacation trip to Wyoming, Montana and Alberta, Canada.

ABRAHAM "ABE" SILVERBURG, chief chemist at the Pierce Refinery of Mexican Sinclair Petroleum Corporation at Tampico, is spending a vacation in the United States.

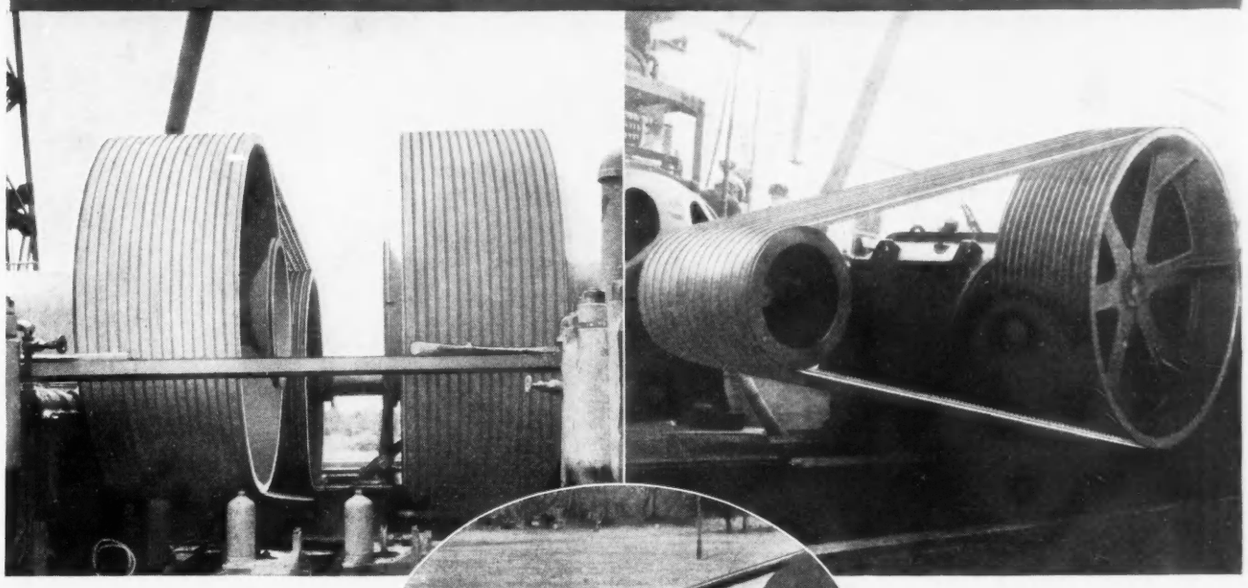
CAPTAIN L. R. ROGERS, marine superintendent at Abadan for British Tanker Company (Anglo-Iranian Oil Company affiliate), was presented with a silver salver and tea service by captains, officers and engineers of British Tanker Company's fleet shortly after announcement of his pending retirement. Captain Rogers has been with British Tanker Company since 1918. The presentation took place in Falmouth, England.

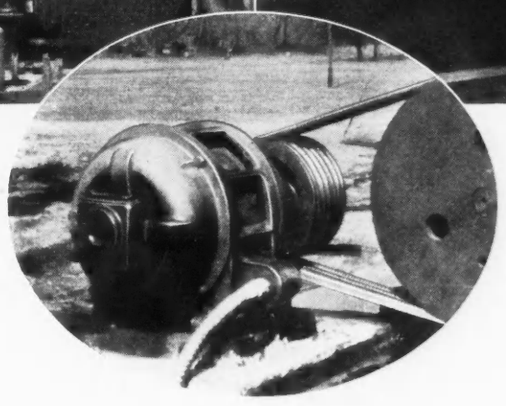
M. C. ISRAELSKY, United Gas Company, has been elected president of the Houston Geological Society for the ensuing year. Other officers elected were: Phil F. Martyn, Houston Oil Company of Texas, vice president; and O. L. Brace, consulting geologist, secretary and treasurer.

RAY McCOY, scout for Superior Oil Producing Company in the Louisiana Gulf Coast district was in Houston October 4. He returned from Oklahoma where he was watching a well for the company.

M. T. LLOYD, managing director of Commonwealth Oil Refineries, recently returned to Australia from England, where he conferred with officials of Anglo-Iranian Oil Company.

HERE'S WHY THE OIL INDUSTRY USES
DAYTON COG-BELT DRIVES
ON THE TOUGHEST JOBS





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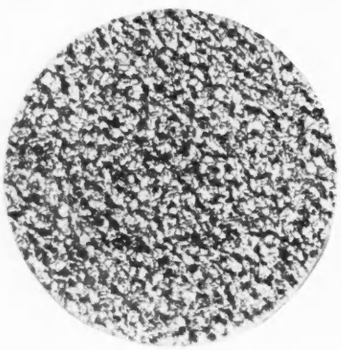

● Photo-micrograph (magnification 100-X) showing structure of Jones "Type X7" rod forged from SAE 4615 steel, normalized. Yield point 50,000 p.s.i., tensile strength 85,000, elongation 28%, Reduction of Area 55%, Charpy impact 33 ft. lbs.

● Photo-micrograph (magnification 100-X) showing structure of Jones "Type X6" rod, 3% nickel, 0.07% max. carbon, 0.20% moly, ingot iron, as rolled. Yield point 50,000 p.s.i., tensile strength 60,000 p.s.i., elongation 25%, Reduction of Area 65%, Charpy impact 45 ft. lbs.

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Geophysical Programs

IN GULF COAST DISTRICT ARE EXACTING TECHNICAL OPERATIONS

By BRAD MILLS, Associate Editor.

« PART I »

THE current search for new oil fields along the Texas-Louisiana Gulf Coast represents an elaborate, complex and exacting exploratory program that involves a tremendous amount of work ahead of actual drilling operations. A technique unlike that employed in any other producing district has been developed in this extremely flat area, which is a great winding strip broken along its 400-mile stretch by grazing lands, farming centers, treacherous swamps, dense forests, occasional lakes and large bays.

The Gulf Coast strip has little of the one thing that most great oil producing districts possess—elevation and sharp surface contrasts. It is true that slight mound conditions exist along the salt dome belt, but operators now seeking new fields are chiefly concerned with the districts offering few surface clues. Most of the "highs" and mounds that indicated the presence of a salt dome have been tested, and the current search involves the great flat expanses that were necessarily overlooked, swampy areas, and inaccessible sectors.

In Wyoming, California, New Mexico and parts of the Mid-Continent, drilling often follows a very limited amount of preliminary work. Most of the structures either show plainly at the surface or are easily mapped. Such structures as Kettleman Hills, Signal Hill and Salt Creek were so plain that they confused most geologists. The Gulf Coast strip offers the exact opposite in surface contrasts, and for this reason requires the most elaborate preliminary program of any producing district in the world. Ordinary speculation is worthless, trend plays are dangerous, and guess work is foolish. The Gulf Coast is no place for hunch plays that often have proved profitable in districts offering sharp surface contrasts. A fairly definite program is being followed, and the handicaps of a flat area are being overcome by a greatly improved preliminary program.

Oil accumulations along the Gulf Coast are so closely associated with salt domes that one seldom is considered without the other. The salt has little commercial importance, but in the past it represented such a definite marker that the location of salt domes was much more widely advertised than the location of structures by other methods. Since the value of early geophysical methods lay principally in their ability to locate salt masses, salt obviously played a much more important role than oil sands during preliminary work that preceded actual drilling operations. The first objective necessarily was salt, but oil is found on or around such a high percentage of salt domes that it was considered a safe practice to drill wherever a definite salt mass was indicated.

The first Gulf Coast fields developed were those easiest to find. We are now engaged in an extensive search for oil accumulations that could not have been found through the conventional practices of 20, 15 or 10 years ago. The rapid improvement in prospecting methods along the Gulf Coast represents one of the most progressive chapters in the history of the oil industry, and the recent discovery of several oil fields demonstrated the effectiveness of methods now followed in areas that formerly fell in the very doubtful class.

Several Methods Used

A company wishing to know more about a block of Gulf Coast acreage has the choice of several methods of attack. There is hardly a section anywhere that has not been "worked" in one way or another, but the geological and geophysical work of 10 years ago fell short of requirements of today. Many of the most promising sectors have not been prospected to an extent that should eliminate them from future consideration as producers at some reasonable depth. The fact that three or four important recent discoveries are located in the heart of the most accessible Gulf Coast localities proves the wisdom of the action of a number of companies that started reconnaissance work in areas that had been prospected for years.

In working and reworking most of the Gulf Coast sectors for new leads, an elaborate sifting and eliminating process is followed. Where structures have been only faintly indicated by previous surveys, and even in many localities that failed to show any structural condition during earlier prospecting, a number of companies are planning to rework a combined area of several thousand square miles.

Various sections of the Gulf Coast may be divided into several classifications, so far as the prospecting status is concerned. The most accessible areas have been heavily prospected, and new or additional exploration work involves various methods of attack. Other sections of the Gulf Coast have been completely prospected in one way or another, but other exploration methods offer some hope for the location of structures that were not indicated during previous exploration campaigns. A third type of Texas-Louisiana Gulf Coast area is the one that has been hurriedly prospected by a method that is now considered of doubtful value when used alone. Such lo-

calities offer excellent opportunities to pick up new leads, since the original work was so widely spaced that intermediate strips may show structural tendencies. A few of the inaccessible localities have not been prospected, and it is in these areas that new prospects in the form of indicated salt domes are being found. Included in these parcels are remote marshes, bays, lakes and a few wooded sections.

One of the most interesting areas along the Gulf Coast is the "connecting" strip lying between the flat area near the gulf and the hilly section toward the north. It has a number of features not possessed by the coastal plain. The accessibility of an area formerly determined the intensity of prospecting efforts, but recent discoveries have given some of the most remote sectors increased activity.

In an area that has been intensely "worked" or propected, such as the flat country between Houston and Galveston, operators reviving preliminary exploration work usually gather and analyze all available data from previous prospecting programs. Such data often is dependable, but the determinations or deductions might have been in error. All anomalies are studied, and important leads may be obtained from records regarded as unfavorable by previous prospecting companies. It is not unusual for a new operator or an invading company to select the most intensely prospected areas when seeking to obtain a good foothold in a short time. This step is largely a matter of strategy, since such localities usually offer many advantages not offered by the more remote districts. Most of the producing fields are located in the highly prospected areas, and in addition to offering the possibility of additional fields through further prospecting, these localities show many slight anomalies that may be developed into important leads.

Although the operator of today has the choice of a number of methods of the past, he is inclined to use only one or two that are accepted as most accurate when reworking areas that look promising. It is correct to assume that the more accessible districts have been prospected with the magnetometer, torsion balance, refraction seismograph and reflection seismograph. Available records are studied and compared with the hope that a good lead may be found. Where three or four different types of records are available, one, two or three may not check with the record of the prospecting method that looked most promising. If two or three methods have shown anomalies, the area should be regarded as a possible producer, even when it is difficult or impossible to show a structural condition. A number of companies recently purchased large leases on the strength of indicated irregularities that were not pronounced enough to be interpreted as salt domes or structures of some type. These companies based their actions on the theory that further exploration work might develop important structural tendencies.

An Important Work

The combing and reworking of accessible areas now represents a very important phase of Gulf Coast exploration work. In several sectors, geophysical crews are almost running over one another. Some of the largest operating companies prefer to remain close to the center of activity of past years, since in doing so they always have at hand a large amount of data that was originally assembled at great cost. The fact that these areas usually contain a number of oil fields gives the prospecting com-

A structure lying entirely under water can be found and mapped by exploratory methods practiced in the Gulf Coast.

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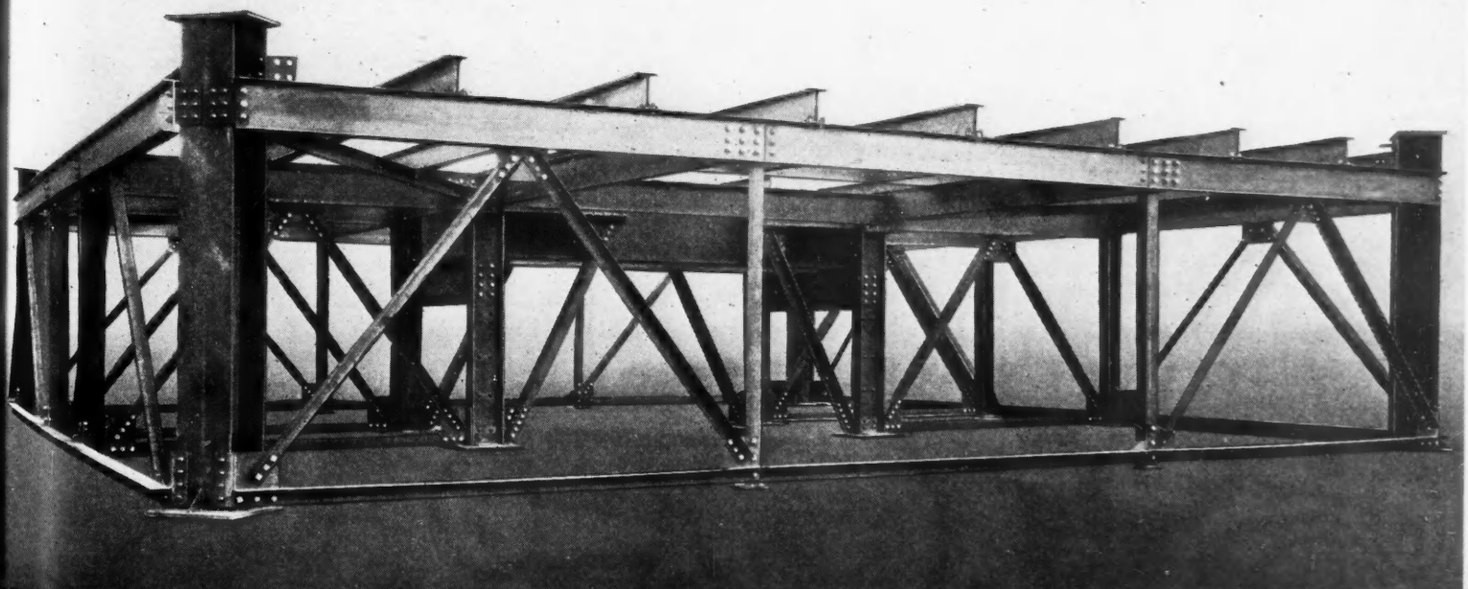


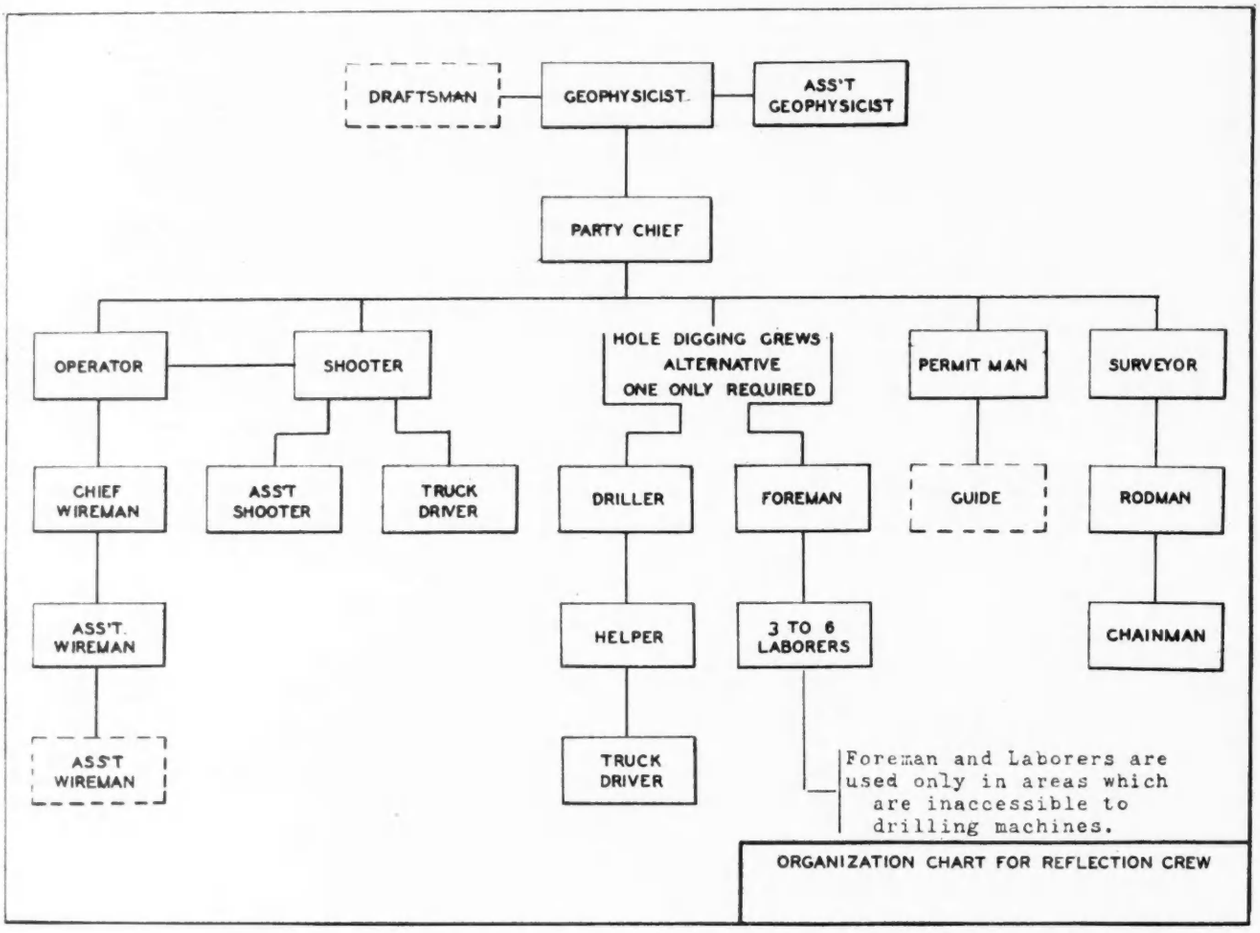
pany the added hope that other fields may be found. A company prospecting for the first time in an intensely prospected area usually checks the indicated anomalies with reflection seismograph. A careful watch for these irregularities often results in a more favorable structural indication than was shown by previous exploration efforts, but the reverse may quickly prove to the new operator that the objective formations remain flat and undisturbed under his leases. In the latter case, the company loses interest in the district and eventually turns his leases to some invading operator who tries to find some ray of hope in a questionable interpretation that involved a personal equation, or permits them to revert to the original owner.

It is not intended to convey the thought that one company after another prospects a few of the most accessible and promising districts, but it is in these areas that the largest "turnover" is recorded. An anomaly that would attract little attention in the remote sections might cause considerable excitement near Houston, Beaumont or Lake Charles.

A careful check of the invading companies of the past two years shows that not one entered the heavily prospected areas of the Gulf Coast without definite reasons. In one way or another these companies learned of indicated formation irregularities that seemed to warrant further prospecting, even though the local companies thought little of the areas under consideration. Recently a single company entered the district south of Houston, a locality that had been intensely worked with magnetometer, torsion balance, refraction and reflection seismograph, core drilling and by careful reflection seismograph detailing, and in a short time discovered two oil fields. This company classified and sifted the prospecting work that had been done, and was able to follow leads that yielded new oil fields. One structure had been strongly indicated by torsion balance, but the north closure was the questionable factor. The reflection seismograph picked up the anomaly and a satisfactory closure was indicated.

More than a dozen of the most promising and intensely developed areas are being quietly reworked with reflection seismograph, and new oil fields may be found as the result of this work. Refraction seismograph is not being used to any extent in these areas, since the exploration work has been reduced to actual determination of structural conditions. The refraction method also does not give such good results where only folding or faulting is a principal clue, and where salt is so deep that structural tendencies must be found from formation disturbances above the probable salt mass. In many cases the refraction seismograph has indicated anomalies, however, and at this time such irregularities are being checked by reflection seismograph. Before making a location recently in an area near Houston, an invading company "shot" across the indicated anomaly from many angles. The structure was virtually mapped before drilling started.

A few of the larger operating companies favor the



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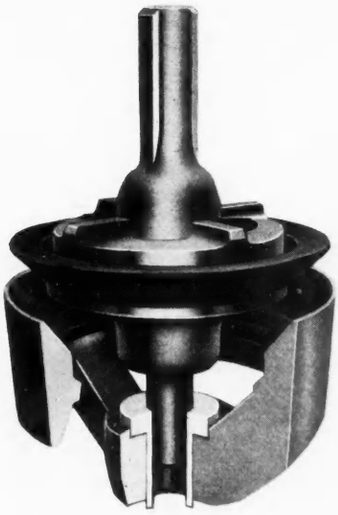

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less intensely prospected areas along the Gulf Coast. Data on such localities are less complete, but the possibility of new leads is more likely than in the heavily prospected districts. Most of these localities have been worked by two or three methods, and in many instances slight anomalies or structural tendencies indicated by one method have not appeared during subsequent exploration work. The torsion balance and seismograph have been used to a great extent in the areas that have been inactive during the past five years. Major companies are beginning to apply the reflection seismograph to these localities, since the torsion balance and refraction seismograph were used to denote irregularities at comparatively shallow depths. Both of the early methods might have faintly shown deep folding, but mapping and outlining were difficult if not impossible. The reflection seismograph has been able in many instances to develop good leads from very weak indications of five and six years ago. A large amount of current reflection seismograph work is closely following the reflection seismograph work of a previous exploration attempt. A new operator studying the data obtained through one reflection seismograph effort may find an important lead that the original operator failed to detect. With this lead he enters the area and reworks it with reflection seismograph, paying particular attention to the indicated anomaly or structural tendency he believed he detected from the original data.

Reworking Many Areas

The Gulf Coast area that has been hurriedly prospected with a method that is now considered of doubtful value when used alone offers the possibility of good leads with a more effective method. The average operator entering such a locality studies the available data and makes sure that the original work did or did not adequately cover the area. The reflection seismograph usually is used to check leads, but in this type of locality the torsion balance may be used in the preliminary work, where the original prospecting effort was limited. The reflection seismograph is valuable in detailing formation irregularities and in picking up new leads, although with an adequate time and expense allowance it might be possible to detect anomalies that would not show by any other prospecting method.

The demand for leases in the inaccessible regions that have not been fully prospected reflects the eagerness of major companies to complete the exploration work in all localities. A company entering a virgin area usually attempts to detect an anomaly or structural tendency at the lowest possible cost or in the shortest reasonable time. The magnetometer and torsion balance are still used to some extent for making a rapid survey of an area. Where there is likelihood of salt near the surface, the refracton seismograph is used during preliminary work. Indicated formation irregularities are checked with a reflection seismograph, and it often is possible to find and map a structure in a new territory in a short time. Operators find it much more expensive to work in the remote areas, but the chances for discoveries are much higher than in many of the intensely prospected areas. Much of the Louisiana coastal area has not been fully prospected by any method, and parts of the district are being worked as a number of Texas localities were worked several years ago. As these areas become more fully prospected, they are checked with the reflection seismograph. A number of companies favor use of reflection seismograph in the early stages of exploration work. Surface geology always plays an important part during prospecting work in remote areas.

The long strip lying between the definitely flat coastal plain and the definitely hilly section properly belongs to the Gulf territory. Operators have given much of their attention to this strip for some time, and recent unfavorable developments have not eliminated it from the active classification by any means. A combination of surface geology and geophysics is being applied to this long strip, since surface contrasts and outcrops give the geologist a good chance to compete with the geophysicist. Many operators favor this area because of the double advantage it offers from an exploration standpoint. In attacking the prospecting problem offered by a large block of acreage along this "dividing" line, the average operator usually follows the leads given by the geologist and attempts to check indicated structural tendencies. The torsion balance and seismograph are being used along a slightly broken fringe to determine the value of surface indications. This strip is one of the most difficult to prospect, despite surface contrasts. It already has been demonstrated that the percentage of indicated structures carrying oil will be less than in the flat strip near the coast line.

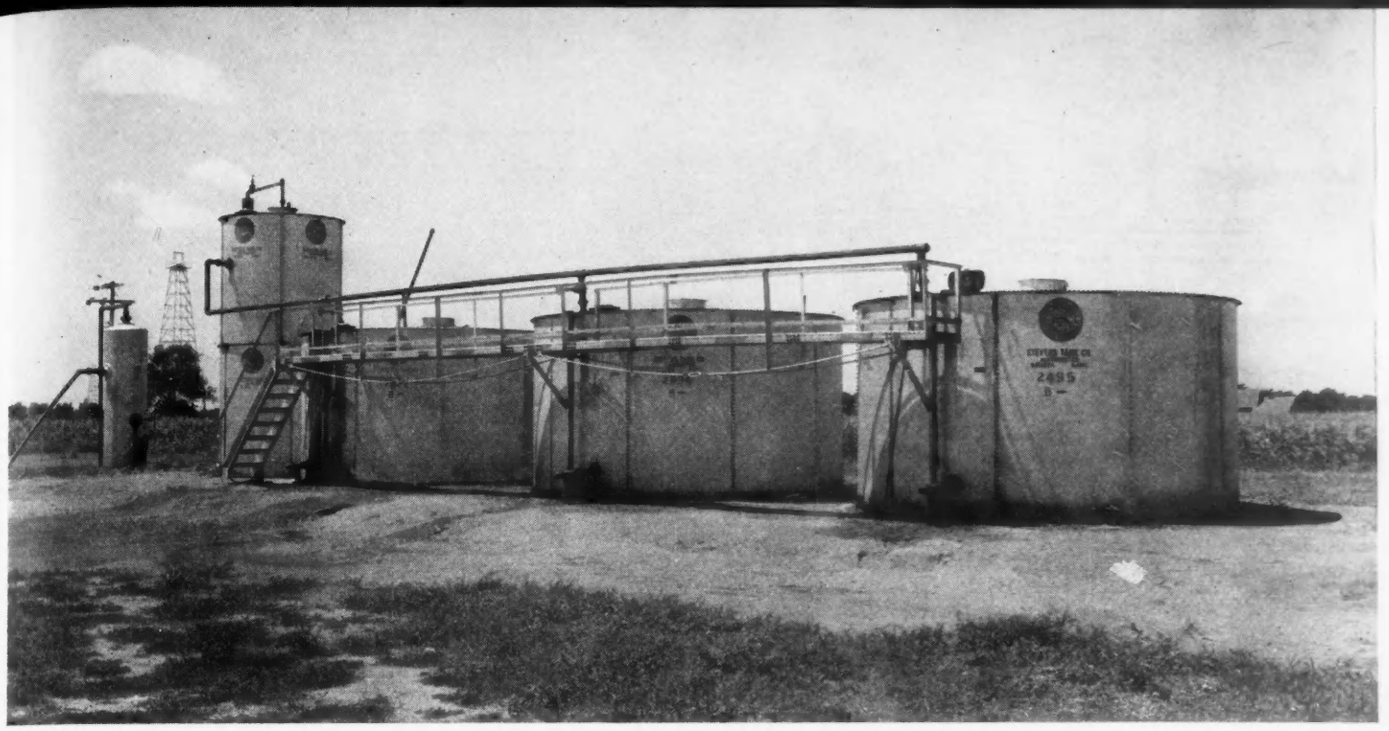
Another type of development now under way involves the outlining of fields producing over and around salt domes. Through use of the torsion balance, refraction seismograph and reflection seismograph a number of producing noses around old salt dome fields have been discovered. A number of attempts to outline the salt plugs in several fields have been successful and additional work along this line is being considered.

At Barbers Hill the salt plug was defined and it was possible to draw a rough picture of the salt mass from results obtained by the refraction seismograph. Detectors were placed in a well at various levels and shots discharged near the surface on the opposite side of the salt plug. By calculating the velocity and studying the changes in velocity of the sound waves between the shot point and the detectors, the overhanging salt condition at Barbers Hill was checked.

The outlining of salt plugs formerly was a function of the drill, but the seismograph is of considerable value in determining or checking the shape of the salt mass. A number of geophysicists doubt the value of these calculations, but good work has been done along this line.

Surface geological methods are used in all Gulf Coast areas in connection with geophysical methods, regardless of the flat or monotonous nature of the locality. A geologist is often able to pick up a good lead that aids the geophysicist. Even in the lake and bay districts the geologist is first to make soundings to find faint "highs" or elevations under water that may indicate slight structural tendencies. It is not unusual to find gas or oil seeps, while the outcrops around lakes and bays, and along streams may give the geologist important clues that may be passed on to the geophysicist.

The second and concluding part of this series will appear in an early issue.



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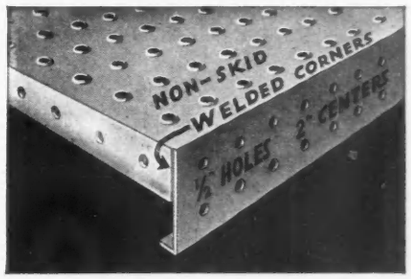
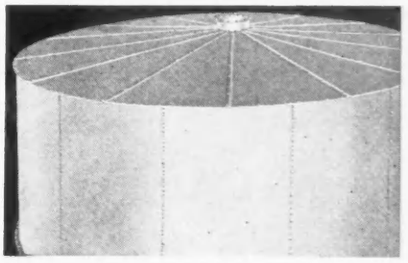
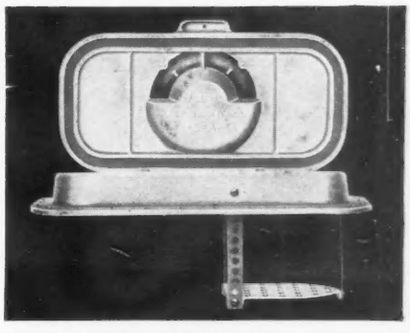


Non-Skid Walkway



New Segmental Deck



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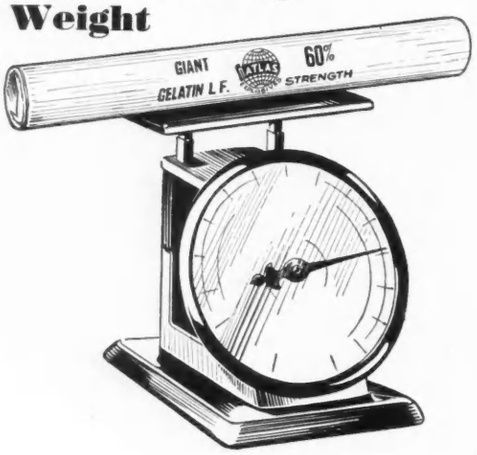
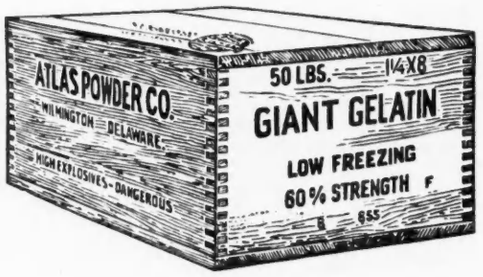
THE USE OF EXPLOSIVES IN PROSPECTING FOR OIL

Right Cartridge Weight



Right Cartridge Count



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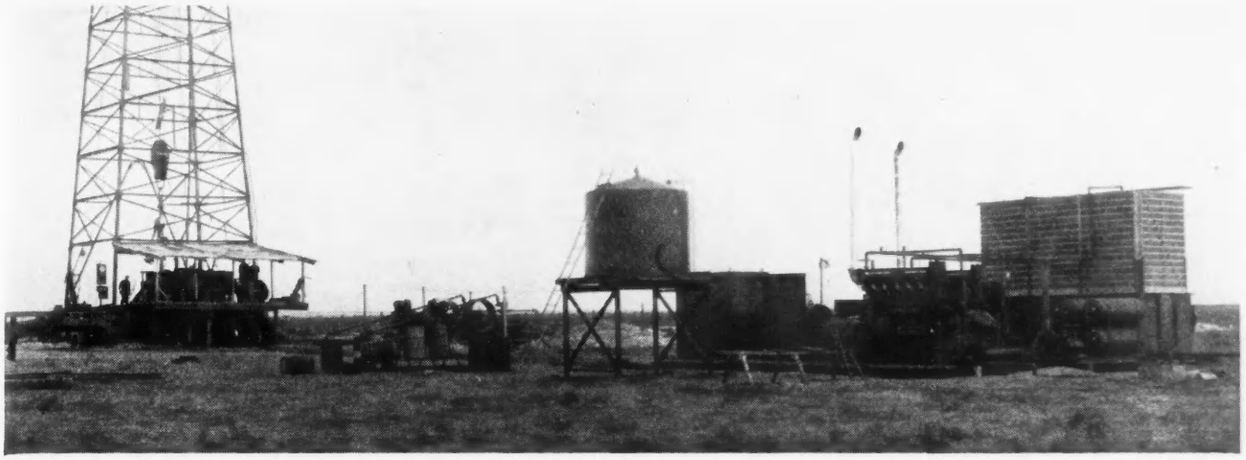
ATLAS
EXPLOSIVES

ATLAS EXPLOSIVES



The rig before starting drilling operations and erection of shelter house

New Diesel-Electric Rig

INSTALLATION HAS MECHANICAL AND OPERATING FEATURES OF INTEREST

A NEW type Diesel-electric rotary rig is being used for the first time in drilling Shell Petroleum Corporation's State 1-B, C SW NW 36-19s-36e, Monument field, Lea County, New Mexico. The rig, which is the property of Rowan Drilling Company, has several interesting operating features.

The main power plant consists of two six-cylinder engines connected through V-belts to 200-kilowatt, 200-volt, 1200-revolution per minute direct-current generators. The auxiliary units are comprised of a six-cylinder engine, direct connected to a 25-kilowatt, 115-volt, 1200-revolution per minute exciter, four air tanks mounted on a common skid on which also is mounted a two-stage, vertical air-cooled air compressor that is driven by a five-horsepower motor through a V-belt drive.

The generators, engines, auxiliary exciter, air starting unit and panel and switch board are assembled on a steel foundation and housed in by a 24x40x10-foot steel building. The overall length of the sub-base supporting the engine and clutch is 18 feet six inches, with a total overall width at the base of four feet three-quarter inch. The total weight of each engine, clutch and sub-base is 25,000 pounds. The two 200-kilowatt generators and one 25-kilowatt exciter are mounted on a common base, which makes for ease in mounting and assembling.

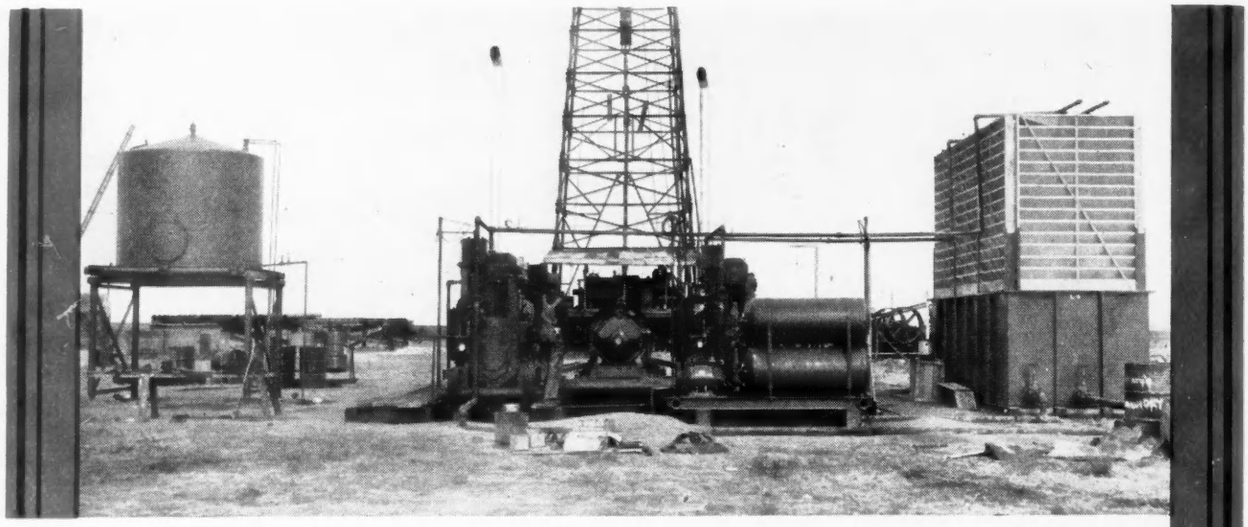
Prime Mover Features

Considerable study was given to the selection of engines for this rig. The final selection was two six-cylinder 9 by 12-inch four-cycle, solid-injection engines, each having a continuous rating of 250 horsepower at 525 revolutions per minute, and a peak rating of 300 horsepower at the same speed. The engines are of extremely rugged design and although fully enclosed, they are easily accessible. The crank shaft in each of these units is 6⅜ inches in diameter in both the main bearing and crank pin bearings. The pins are hollow bored and the entire shafts are drilled for force-feed lubrication. The large diameter of the shaft and the size of crank web tend to eliminate all dangerous criticals within the operating speed range of the engines.

By ARCH H. ROWAN, President,
Rowan Drilling Company, Ft. Worth, Texas

The units are of the water-box type construction. The water box being of semi-steel fitted with removable cylinder liners. At the top these cylinder liners are fitted with copper gaskets, making a perfect fire joint, and at the bottom are fitted with rubber grommets and stuffing box to permit free expansion. The lubricating system of each unit consists of a lubricating oil pressure circulating pump built in. A duplex lubricating oil strainer, as well as a special lubricating oil cooler, is built in with the engine.

The fuel injection system is probably one of the most important features of these particular units. These engines are provided with an improved form of the common rail solid-injection fuel systems. A duplex fuel pump consisting of cam-driven plungers and an adjustable relief valve maintains a constant pressure on the fuel supply header. From there a cam operated in-



Rear view of power plant, showing fuel oil tank on left and water cooling tower to right.

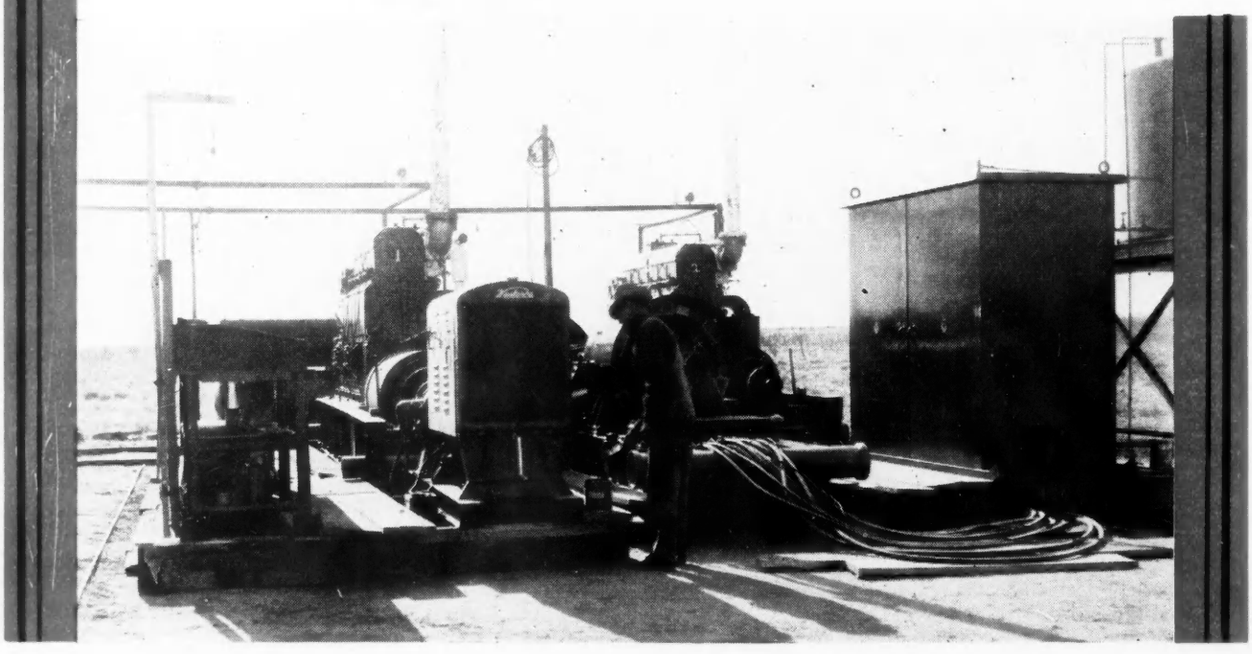
dividually timed valve for each cylinder times the fuel necessary for each injection to meet the load requirements. Between injection periods, a patented feature of these timing valves reduces the fuel pressure on the injection nozzle, centrally located in the head, to atmospheric pressure, thus eliminating any possibility of nozzle leakage between charges. With this feature, there will be less carboning of the valves and the fuel will be more completely burned, giving clear exhaust.

Each unit is equipped with fuel oil filters, but for added precaution a pipe line strainer has been installed between the fuel tank and the fuel oil pump on the engine. A air filter completely washes the intake air of each engine before it enters the intake manifold. A built-in centrifugal water circulating pump furnishes cooling water to each unit.

Each engine is equipped with a gauge board with the following instruments mounted: tachometer, fuel oil pressure gauge, lubricating oil pressure gauge, and starting air pressure gauge. This instrument board is mounted on the operating side of the engine and at the starting end, which enables the operator to know exactly what is going on as the engine is being started and while it is being run. Each engine is mounted on a sub-base made of 20-inch steel I-beams. A clutch with sheave grooved for 26 belts is mounted on the engine stub shaft. On the outer end this stub shaft is supported and operates in a pillow block roller bearing. On the power take-off end of this sub-base there is a cutout section to accommodate the V-belt drive, and the top of the I-beam on the power take-off side is equipped with a removable bracket for installing the V belts. The units are started with compressed air, having one air starting valve in each cylinder. Each cylinder also is equipped with a safety relief valve.

The cooling system consists of a tank mounted on

Front view of main power plant, with board control housed in weather-proof metal box.



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ROTARY DRIVE: From clutch sprocket mounted outside of bearing on Jack Shaft thru roller bearing idler sprocket on drum shaft. This affords unusually low drive to the rotary.

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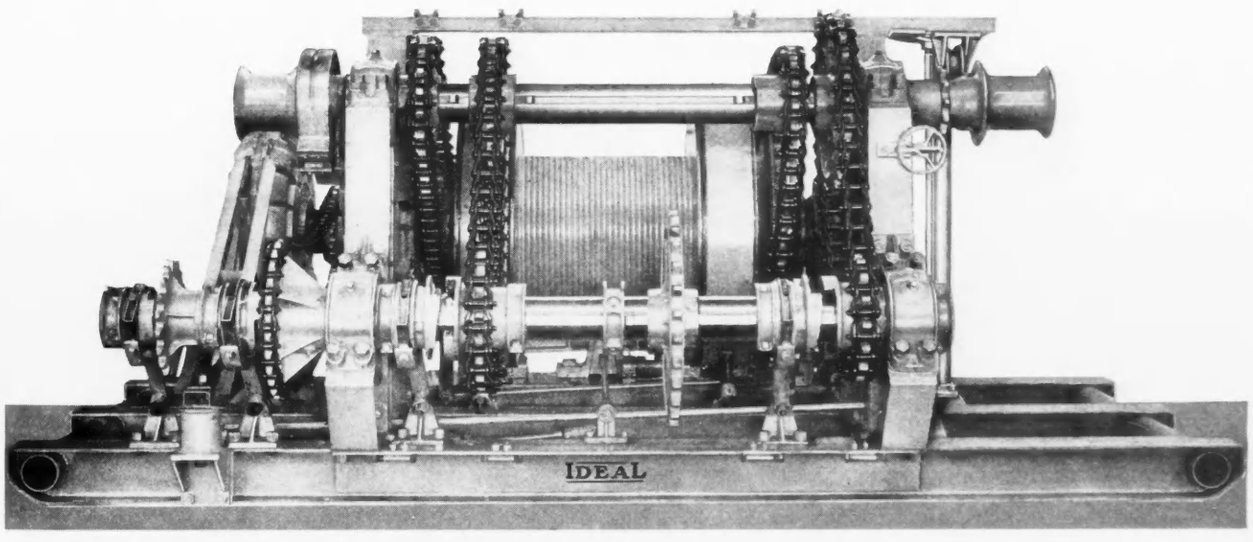


steel skids. The tank is seven feet wide, 18 feet long and 14 feet high. The top seven feet of the tank is galvanized louvres, which are so designed that they collapse inside the tank. Thus, when the tank is being moved, it has a maximum height of only seven feet.

Operating Features

This type of rig has several operating features in that it is adaptable to setting on both low and high derrick foundations. The pumps may be placed at any convenient location adjacent to the derrick, and the power plant may be set back away from the derrick, so that in case of craters or fire it is not in a position where it may be exposed. In hilly country and territory where there is an uneven terrain, the equipment may be placed at convenient places without excessive amount of levelling and excavating.

Additional operating features include the following:

1. It can deliver maximum torque to the driven member at standstill for an appreciable period without damage to any part of the equipment.
2. Loads are started from rest without the operation of clutches.
3. Speed adjustment over a wide range can be made at any time without disconnecting the load for shifting gears.
4. Reversals may be made without de-clutching.
5. All phases of operation may be accomplished without shocks or undesirable stresses.

Characteristics of Electrical Equipment

The generators, motors and controllers were designed to provide an easily manipulated, easily maintained, flexible and efficient transmission between Diesel engines and the various power-driven elements of a rotary type oil well drilling rig. The combined operating characteristics of generators and motors are such that:

1. The Diesel engines may be operated at constant speed, while the speeds of mud pumps and rotary table or drawworks are independently regulated to obtain the results desired.
2. Maximum torques or maximum speeds are delivered to the driven members at relatively light load on the Diesel engines.
3. Because of the non-overloading characteristics of the generators, it is not possible to impose a load on the engine greater than a predetermined amount. Facilities are provided for adjusting the generators to bring the peak load up to, but within the capacity of the engine.
4. At the point of maximum load on the engines, the electric motors are operating at, or near full-load speed and torque and delivering slightly more than rated horsepower.

The generators are provided with three field windings, which are as follows:

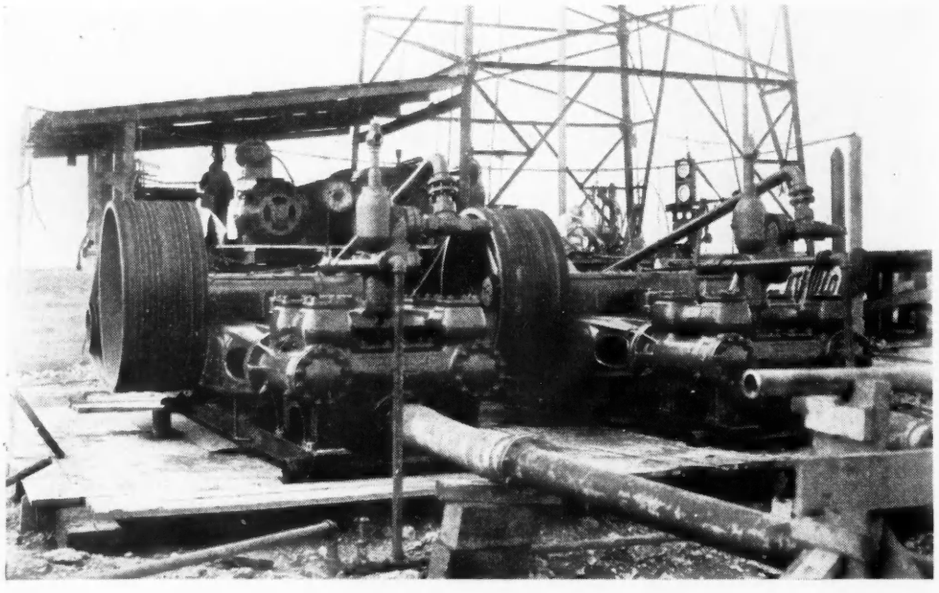
1. A separate excited shunt field, reversible in direction through the action of the master switch and field contractors. This field determines the polarity, or direction, in which the generator voltage will build up.
2. A self excited shunt field, which builds up in response to the generator voltage and is connected to add to the separately excited field.
3. A differential series field, connected to oppose the two shunt fields. This field is so proportioned that, when the generator armature and series field current increases to two times rated full-load value, the series field is practically equal in strength to the combined shunt fields and the generator voltage is reduced to almost zero.

The main motors are all shunt wound, with fields excited at a constant value and with fixed polarity. Direction of rotation of motors is controlled by controlling the direction in which the generator voltage builds up.

The drilling motor and slush pump motors are equipped with a top-mounted direct-connected blower. The mud pumps are 7x18, which are driven by 225-horsepower motors through V-belt drive. Relief valves are installed on the air chambers to prevent over-loading of the power end of the pumps. The drilling motor is connected with a flexible coupling through a speed reducer and by chain from the speed reducer to the drawworks.

The drilling motors and both pumps are controlled by hand wheels at the driller's position. There is a push button safety switch also at the driller's position.

The centrifugal pump direct-connected to the five-horsepower motor serves as a wash down pump.



The main power plant while assembly work was still in progress.

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Checking Gas Engine Performance

WITH THE INDICATOR HAS ADVANTAGES

By JOSEPH LISTON, Assistant Professor,
School of Mechanical Engineering
The University of Oklahoma

« PART 2 »

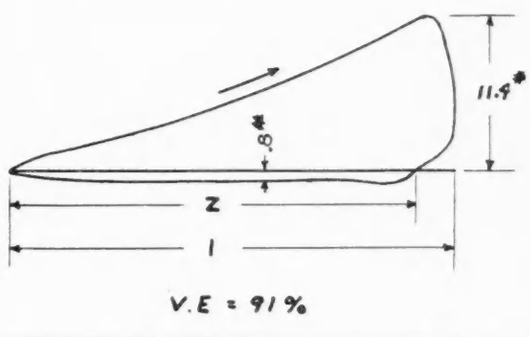
IN Part 1 of this series of two articles attention was called to the value of power cylinder indicator cards in adjusting gas engines for best performance. Compressor or scavenging cards and exhaust line cards are also of material assistance and may be studied to advantage as the manner of entry of the new charge into the cylinder and exit of the burned gases to the exhaust has been found to materially affect performance. Part 1 of the series appeared in THE OIL WEEKLY of September 23.

Compressor or Scavenging Cards

Internal combustion engines are essentially air pumps. This statement may be somewhat surprising to some, but a moments consideration will show it to be essentially true. For instance, recent air-fuel ratio tests on a Natural gas engine at the University of Oklahoma showed that, for good performance, the engine required about 11½ cubic feet of air per cubic foot of fuel. The fuel rate was 11¾ cubic feet of gas per brake horsepower hour, and, as the engine was developing some 46 horsepower, the air consumed per hour was $11\frac{3}{4} \times 11\frac{1}{2} \times 46 = 6200$ cubic feet or more than 100 cubic feet per minute while the fuel consumption was less than nine cubic feet per minute. Obviously, the dimensions of the engine are governed by the quantity of air to be handled far more than by the fuel.

FIGURE 7

A scavenging or compressor card from a two-stroke cycle engine.



Compressor cards from the scavenging end of the cylinder serve two principle purposes. They can be used to determine the horsepower required to compress the new charge, and, what is probably more important, they can be used to measure the effectiveness with which the engine gets the charge into and out of the cylinder.

Horsepower calculations are practically the same as for power cards. The area of the card is found with a planimeter, the mean effective pressure is found from the product of this area and the indicator spring scale divided by the length of the card, and then the I. H. P_c. is calculated in the same way as for two-cycle power cards. As the useful or brake horsepower is B. H. P. = I. H. P. — (I. H. P_c. + engine friction H. P.) it is obviously desirable to keep the scavenging horsepower as low as possible.

The efficiency of the scavenging compressor in handling the charge is illustrated in Figure 7. In this card, taken from an 80-horsepower engine, the length Z represents the quantity of charge referred to atmospheric pressure. The ratio $\frac{Z}{l} \times 100$ is called the volumetric efficiency, and it represents the volume of new charge taken into the engine divided by the displacement of the scavenging compressor. The scavenger displacement is, for an engine using the crank end of the cylinder

$$D = \frac{\frac{\pi}{4}(d^2 - d_r^2)\, l}{1728}$$

where D is in cubic feet
d is the diameter of the cylinder in inches
d_r is the diameter of the piston rod in inches
l is the piston stroke in inches.

The quantity of new charge taken in per cycle is

$Q_c = V.\ E. \times D$

where Q_c is the volume of new charge per cycle or per unit time, cubic feet.
V. E. is the volumetric efficiency expressed as a decimal
D is the scavenger or compressor cylinder dis-

placement per cycle or per unit time corresponding to Q_c.

For engines using fuel savers, the fuel is not mixed with the air until the latter reaches the power cylinder. Hence Q_c as determined above is the quantity of air. For engines in which the fuel and air are mixed in the scavenging cylinder, the quantity of air taken into the engine is

$$Q_a = Q_c - Q_f$$

where

Q_a is the quantity of air handled by the engine, cubic feet

Q_c is the quantity of charge, cubic feet

Q_f is the quantity of fuel used, cubic feet. This is most conveniently found from a gas meter attached to the fuel line.

The various quantities may be found for one cycle, or more readily, for a definite length of time, and each should be referred to the same temperature-pressure base.

The air-fuel ratio on a volume basis is

$$A/F = Q_a/Q_f$$

From the standpoint of engine performance, to get maximum power, a maximum quantity of charge should be admitted. Referring to the expression for Q_c, it is seen that this quantity varies directly with the volumetric efficiency, and the volumetric efficiency, in turn, may be increased by reducing the restriction in the path of the charge into and out of the engine. For an engine in proper adjustment, the volumetric efficiency may be readily increased by opening the air-control valve.

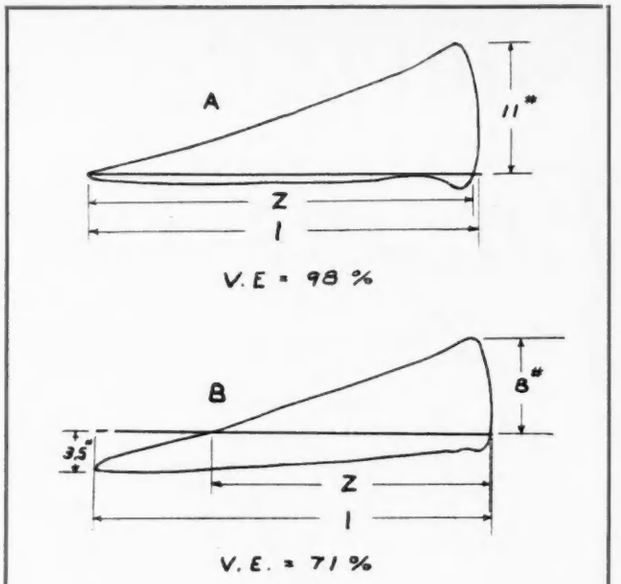


FIGURE 9

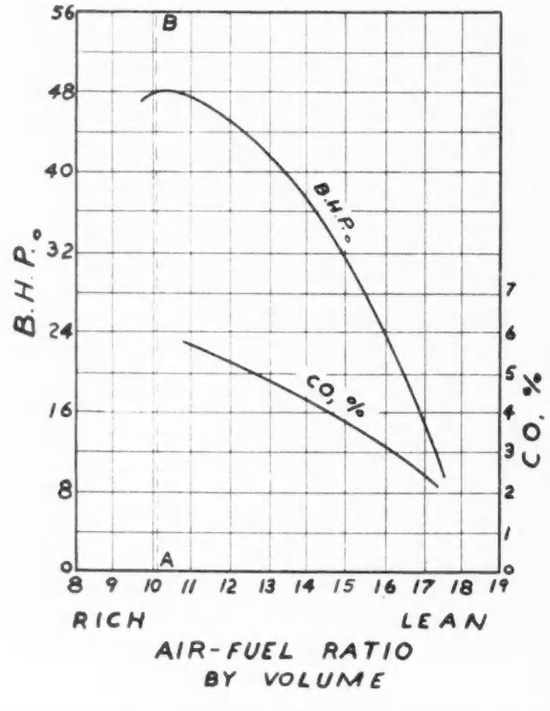
Scavenging cards showing the effect of restricting the air passageway. A—Air valve open. B—Air valve almost closed.

However, the effect of air-fuel ratio on performance must be considered in this connection. It has been pointed out in the preceding discussion that lean mixtures do not burn as rapidly or produce as much power as correct mixtures. Hence, if by opening the air valve, the quantity of air taken in is increased and the quantity of fuel remains the same, the air-fuel ratio will increase and more than offset any anticipated gain. In the usual design of two-stroke gas engine, this is frequently the thing that happens. Figure 8, illustrating this point, shows that the power output of a gas engine is strongly influenced by the air-fuel ratio, and that increasing this ratio by opening the air valve is, beyond a certain point, very undesirable.

Figure 9 B shows the effect of closing the air valve. The resulting rich mixture is uneconomical because of the large loss to incomplete combustion. The rapid increase in carbon monoxide in the exhaust with decreasing air-fuel ratio, Figure 8, illustrates this point.

FIGURE 8

Test results from a two-stroke cycle natural gas engine showing the effect of varying the air fuel ratio on the brake horsepower and carbon monoxide content of the exhaust gases.



Exhaust Line Cards

Reducing the restrictions in the path of the new charge into and the burned charge out of the cylinder is quite important in procuring best performance. Granted the air-fuel ratio is maintained at proper value, the power output of an engine will vary about in direct proportion to the quantity of charge, and, of course, reducing the resistance to flow will, for a given pressure difference causing the flow, result in a greater quantity of flow.

There are practical limits to increasing the size of the induction and exhaust systems. For instance, if the exhaust port is made larger, the resistance to flow out of the cylinder will be reduced, but point 4, Figure 3, will be displaced to the left, and the

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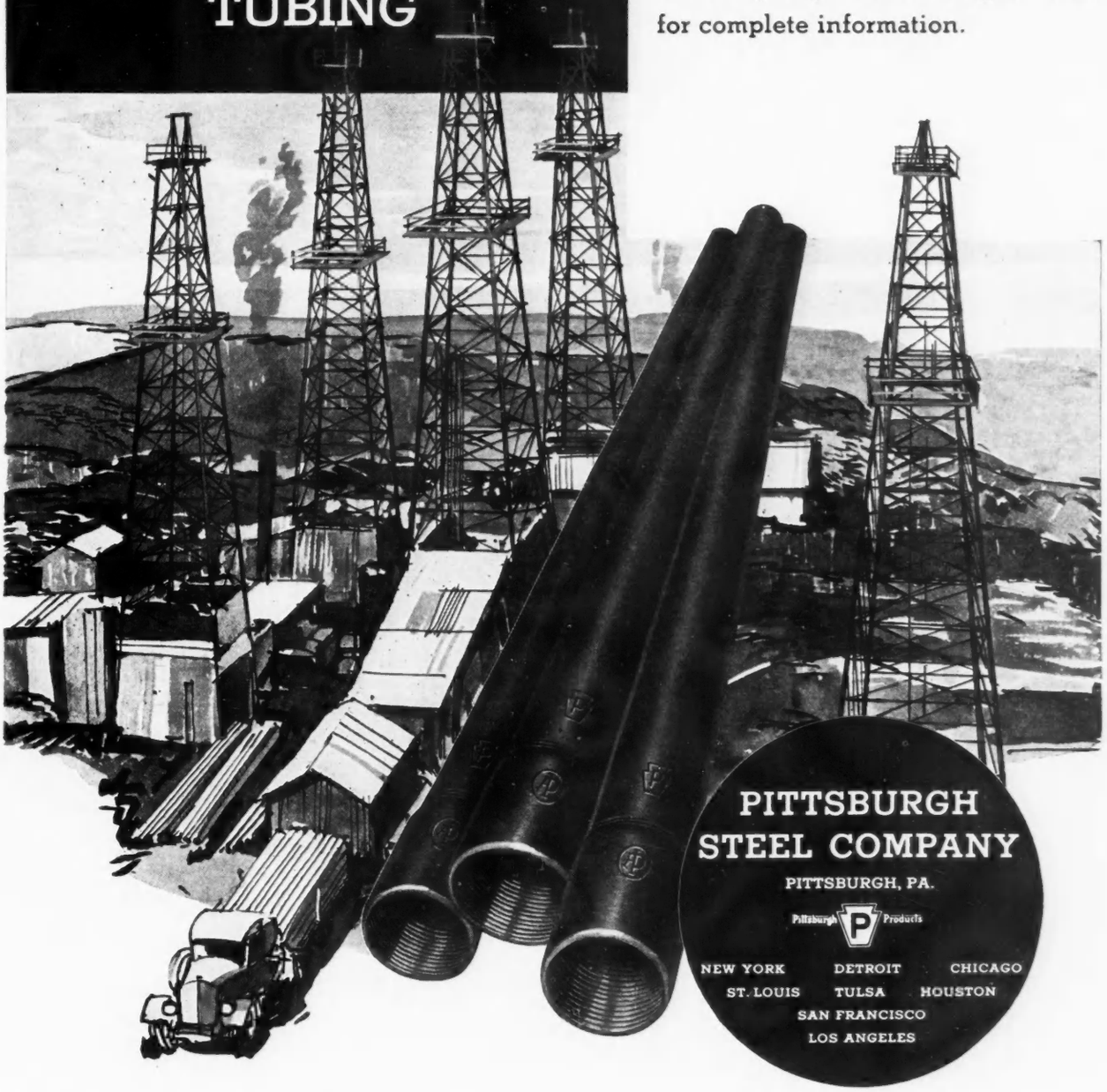

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area of the card (which is proportional to the useful work, will be reduced. Point 1A will also be displaced to the left, and, as compression cannot start until the exhaust port is covered, the effective compression ratio which governs the efficiency, Figure 2, is reduced. Such design features are beyond the control of the operator, however, and they are of interest mainly in illustrating how design limits may act as performance limits.

The flow of charge into and out of the cylinder is intermittent, and, in the case of compressible substances such as the gases with which we are dealing, this causes pressure variations or waves that may have a pronounced effect on the volumetric efficiency and other performance characteristics of the engine. The effect is particularly important in long columns of gas as in the exhaust pipe. A sudden impulse caused by the rush of gas into the pipe when the exhaust port is uncovered will result in a rapid build up in pressure in pipe. The inertia of the gas due to its motion in passing out of the pipe then tends to reduce the pressure below normal behind the discharged gas, and at a sharp turn or the end of the pipe, this lowered pressure causes a return flow. The result is an alternating flow back and forth along the pipe that shows up at any given position as a rapidly fluctuating pressure of gradually diminishing magnitude. Figure 10 shows the variation near the exhaust port in a Natural gas engine having a relatively long exhaust pipe.

To analyze the action taking place, assume the piston is moving from B to A and the lower edge of the head has just reached point X. The pressure in the cylinder is C on the light spring power card (this point corresponds to 4 in Figure 3), and the pressure in the exhaust pipe is C′. As the piston uncovers more and more of the exhaust port, the outrush of burned charge causes the cylinder pressure to fall rapidly along the line CD, and the pressure in the exhaust pipe builds up along the line C′D′. At point Y corresponding to D and D′, the inlet port is uncovered, and, with the rapid fall in cylinder pressure from D to E, the pressure in the scavenging cylinder soon exceeds the cylinder pressure. Then new charge flows through the inlet port into the cylinder. The rapid fall in exhaust line pressure along the line D′E′ is due to the surging or wave making effect of the sudden rush of gas into the exhaust pipe. This drop in pressure is very beneficial as it permits a more complete scavenging of the power cylinder and reduces the resistance against which the new charge must enter.

From E′ almost to F′ the pressure in the exhaust pipe near the port is below atmospheric, and, cor-

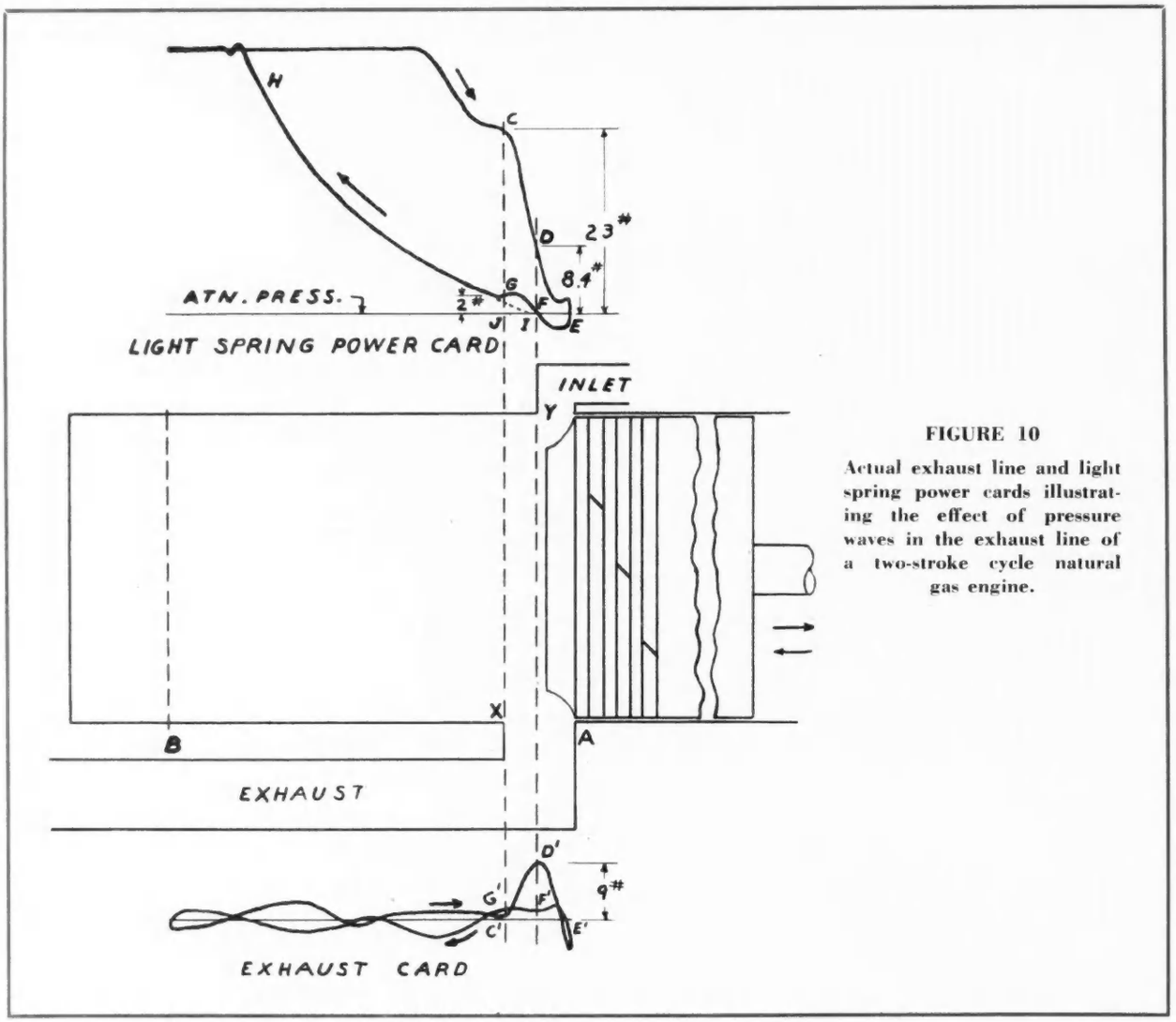

FIGURE 10

Actual exhaust line and light spring power cards illustrating the effect of pressure waves in the exhaust line of a two-stroke cycle natural gas engine.

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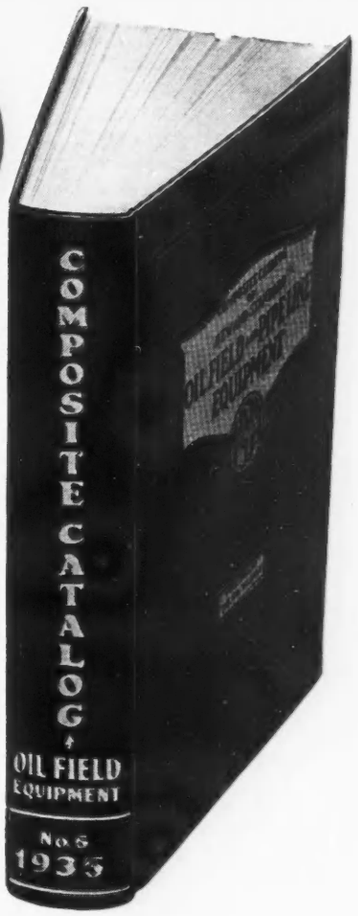

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respondingly, from E to F the cylinder pressure is less than atmospheric. This provides a still further difference in pressure between the power and scavenging cylinders and thereby provides excellent conditions for induction of the new charge.

At Y corresponding to F and F′, the inlet port is covered by the returning piston, and no more new charge can enter the cylinder, but, if a vacuum continues in the exhaust pipe just outside the port, some of the new charge will flow from the cylinder out into the exhaust pipe and be lost as far as usefulness in producing power is concerned. In the case under consideration, Figure 10, this loss of new charge is largely prevented by the return pressure wave F′ G′ which maintains the pressure outside the exhaust port above atmospheric until the port is covered by the piston. In addition, this return wave tends to force back into the cylinder any new charge that may have escaped to the exhaust during the period of low pressure E′ F′.

A final desirable effect of the return pressure wave F′G′ is seen in the rise in pressure FG on the power card. This is essentially a supercharging effect equivalent to an increase in the effective compression ratio, i.e., the compression line GH is displaced upward an amount equivalent to the starting of compression at point I.

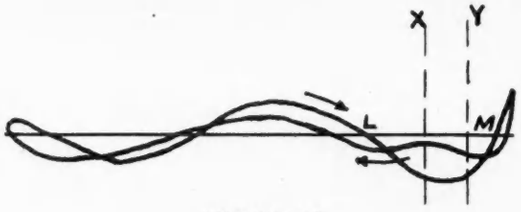


FIGURE 11

An exhaust line card taken while the engine was not firing.

Essentially, then, the length D′ in Figure 3 is increased by an amount IJ (Figure 10) with the resulting increase in effective compression ratio and efficiency. The supercharging action, by increasing the density of the fuel-air mixture in the cylinder, tends to increase the power output provided the air fuel ratio is not altered by excessive dilution of the charge with burned gas returning from the exhaust.

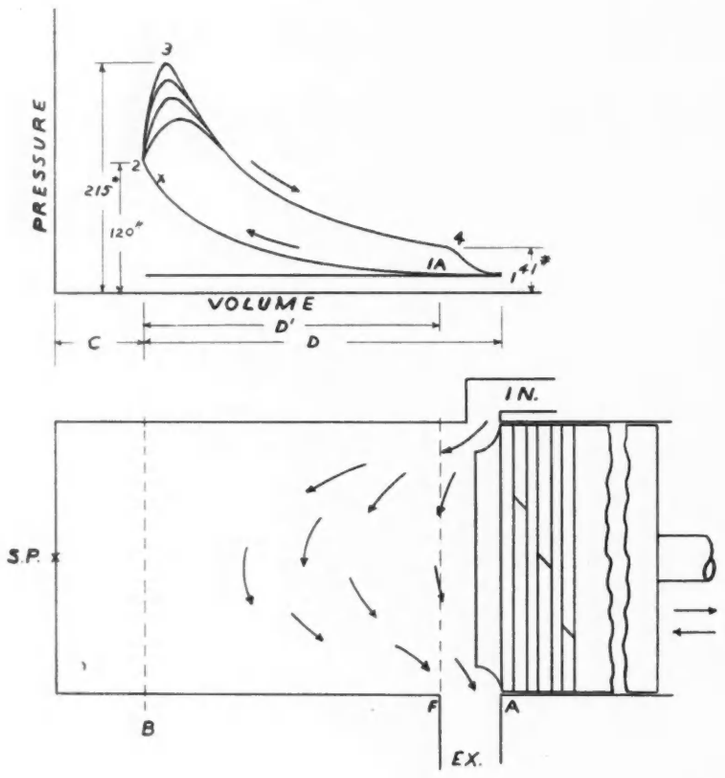
After the ports are covered, the pressure waves in the exhaust pipe are of little consequence except at the period immediately preceding C′. It is desirable here to have the wave tending to produce a vacuum at the port as this offers less resistance to the sudden entrance of the next burned charge into the pipe. Then D′ will not be as high, and the resulting effect on lowering D will permit earlier entry of new charge from the scavenging compressor. Figure 11 is a card taken from the exhaust of the same engine but with the ignition off. The period of low pressure LM occurs during the time normally occupied by C′D′, Figure 10. As a result, the pressure waves in the exhaust pipe, in this engine, aid in the initial removal of burned charge from the cylinder.

In view of the above analysis, the cards shown in Figure 10 can be considered as representatives of good conditions. However, it should not be construed that all good conditions will show cards identical to those in Figure 10. Wave frequencies in exhaust pipes vary inversely with the pipe length, hence several different desirable pipe lengths are possible in a given installation.

The supercharging effect in Figure 10 would not be possible without an exhaust pipe, and this is very good evidence that, even assuming the discharge of gas and fumes into the air at the cylinder was not objectionable, an exhaust pipe of the correct length is better than no pipe at all.

FIGURE 3

An actual two-stroke cycle natural gas engine indicator card and cylinder diagram illustrating the action during the cycle. (This figure reproduced from Part I because of the frequency of reference to it.)



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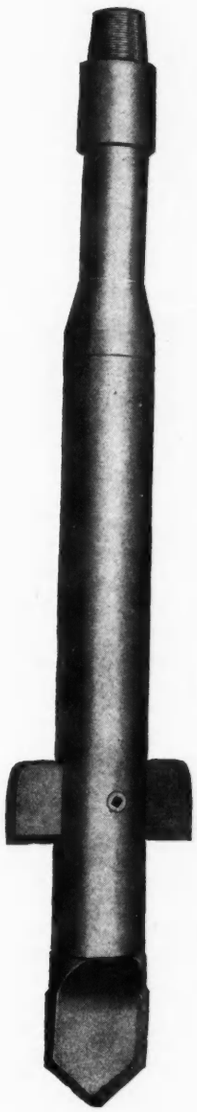

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New Oxford Deep Zone

YIELDING LARGE INITIAL WELLS, BECOMES IMPORTANT FACTOR IN KANSAS DEVELOPMENT

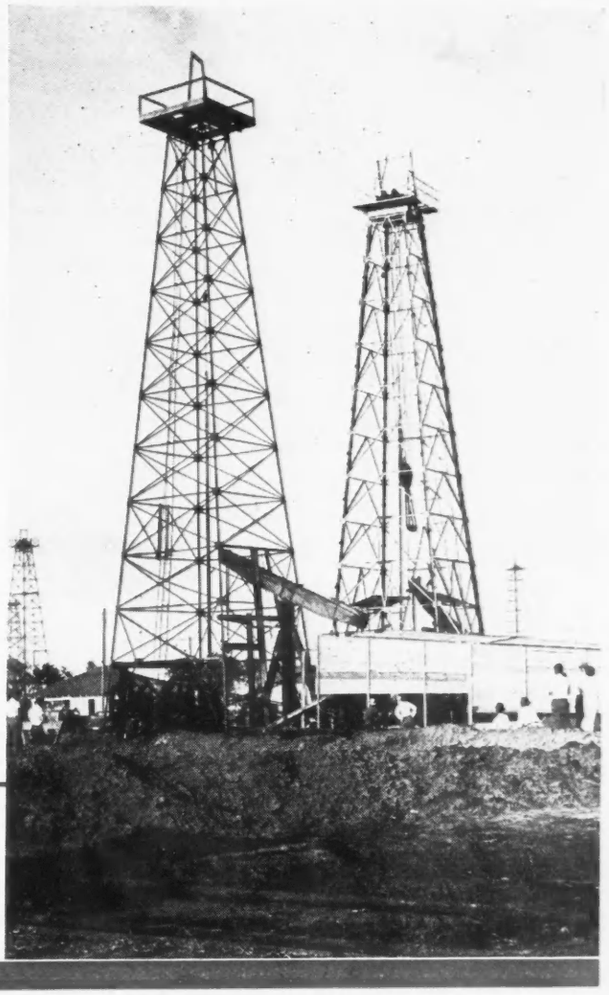
By FLOYD SWINDELL, Staff Writer

THE Oxford pool, situated in the townsite of Oxford and immediately to the southwest of it in eastern Sumner County, Kansas, is one of the most interesting of the Nemaha Granite Ridge pools in the state. The recent completion of potentially the largest well in the history of the state, and the creation of a daily potential in excess of 112,000 barrels from the first 11 wells in the deep horizon make it one of the most important factors since the beginning of proration. The pool is of special interest to companies owning acreage since the oil is of high quality, and is being obtained largely through the deepening of old wells, which makes the development program extremely economical.

The pool was discovered on May 10, 1927, when Shell Petroleum Corporation (then Roxana Petroleum Corporation) completed Emrick 1, NE NW SW NE 14-32s-2e, within a stone's throw of the southwest corner of the townlot area. The well yielded from 150 to 200 barrels initially from Stalnaker sand, a member of the Douglas-upper Lansing Group of lower Pennsylvanian age, found at 2012 to 2060 feet, the total depth. At the close of 1927 there were 38 producing wells. The peak of development was in the following year when 65 producers were completed. At the close of 1929 a total of 123 tests had been drilled and five producing horizons established. Of this number 86 were Stalnaker sand wells, 17 were in the shallower zones, 19 were dry holes and one was a lost hole.

On November 11, 1927, the second producing horizon was established when Derby Oil Company completed Birkett 3, Section 14-32s-2e, flowing 225 barrels initially from Emporia limestone topped at 1063 feet. Two months later Amerada Petroleum Corporation et al discovered production in the Howard limestone when Gassoway 1, Section 14-32s-2e, yielded 220 barrels initially from the lime topped at 1265 feet. The fourth producing zone was discovered on May 3, 1928, with the completion of Barnsdall Oil Company and Lario Oil & Gas Company's Wenrich 3-A, Section 23-32s-2e, producing 100 barrels initially from Severy shale topped at 1305 feet. Nine days later the fifth zone was established when Amerada Petroleum Corporation et al's Gassoway 9, Section 14-32s-2e, flowed 150 barrels initially from Hoover sand topped at 1605 feet.

Most of the wells drilled in the townsite were



Completing a large well on the Barnsdall-Lario, Wenrich lease in the Oxford pool. The control head is just being closed.

small and a large number were dry holes. As of May 1, 1935, the pool is estimated to have yielded 9,820,000 barrels of oil averaging 40 degrees Baume, from 490 productive acres or an average of 20,040 barrels per acre. This places it high among the outstanding pools of the state from the viewpoint of recovery per acre. Of the total estimated recovery it is estimated that 7½ percent, or 736,500 barrels, came from the upper sands and the remaining 92½ percent, or 9,083,500 barrels, from the Stalnaker sand.

The possibility of production below the Stalnaker sand had been considered good, but it was not until February of this year that any move was made to test the horizons below the Pennsylvanian series. Barnsdall Oil Company and Lario Oil & Gas Company initiated the move when they went into Wenrich 4, NE NE NW NW 14-32s-2e, an old Stalnaker sand well that had been drilled originally to 2110 feet. It was completed May 1, 1935, pumping 136 barrels from 2899 feet, 10 feet below the top of the Ordovician pay. Table 1 is a record of the first 11 deep completed wells. It will be noted that the second well pumped 1288 barrels initially, and that the third well flowed 5820 barrels on its initial gauging. This well was the first real indication of the importance of the find. The fourth completion was smaller than the third, but the fifth rated among the larger wells in the western portion of the state, that is from the Nemaha Ridge westward. Amerada Petroleum Corporation and Sunray Oil Company's Gassoway 1-A, SE SE NE SW 14-32s-2e, encountered top of the lower producing horizon at 2801 feet, was drilled to 2837 feet and flowed at a rate that gave it an indicated potential of 37,466 barrels and a rating as the largest well ever completed in the state. Production the first hour was 1861 barrels; the second hour, 1692 barrels; the third hour, 1629 barrels; the fourth hour, 1557 barrels; and the fifth hour, 1507 barrels; a total of 8246 barrels for the five-hour period and an average of 1649 barrels per hour. The above gauges had not been corrected for temperature.

The Lower Producing Horizon

Considerable difference of opinion exists as to the identification of the new lower producing horizon. Some geologists correlate the zone as Simpson dolomite, others believe it to be Arbuckle (siliceous) lime while others believe it to be a dolomitic streak or zone of Arbuckle age. A sample obtained from one of the tests shows considerable brown saturated dolomite of uniform texture along with similar amounts of siliceous lime. Until several tests have been drilled through it the likelihood of a definite correlation is remote. In the 11 wells completed prior to September 18, and shown in Table 1, top of the lower zone was found at depths ranging from 2801 to 2889 feet and averaging 2835 feet. Average depth for the same group of wells is 2886 feet, an average penetration of 51 feet below top of the dolomite. Penetration ranges rom 10 feet in an edge well to 74 feet higher on the structure. It is indicated that several of the wells could be increased in size by additional penetration, a move that probably would be hazardous in view of the lack of information as to position of water.

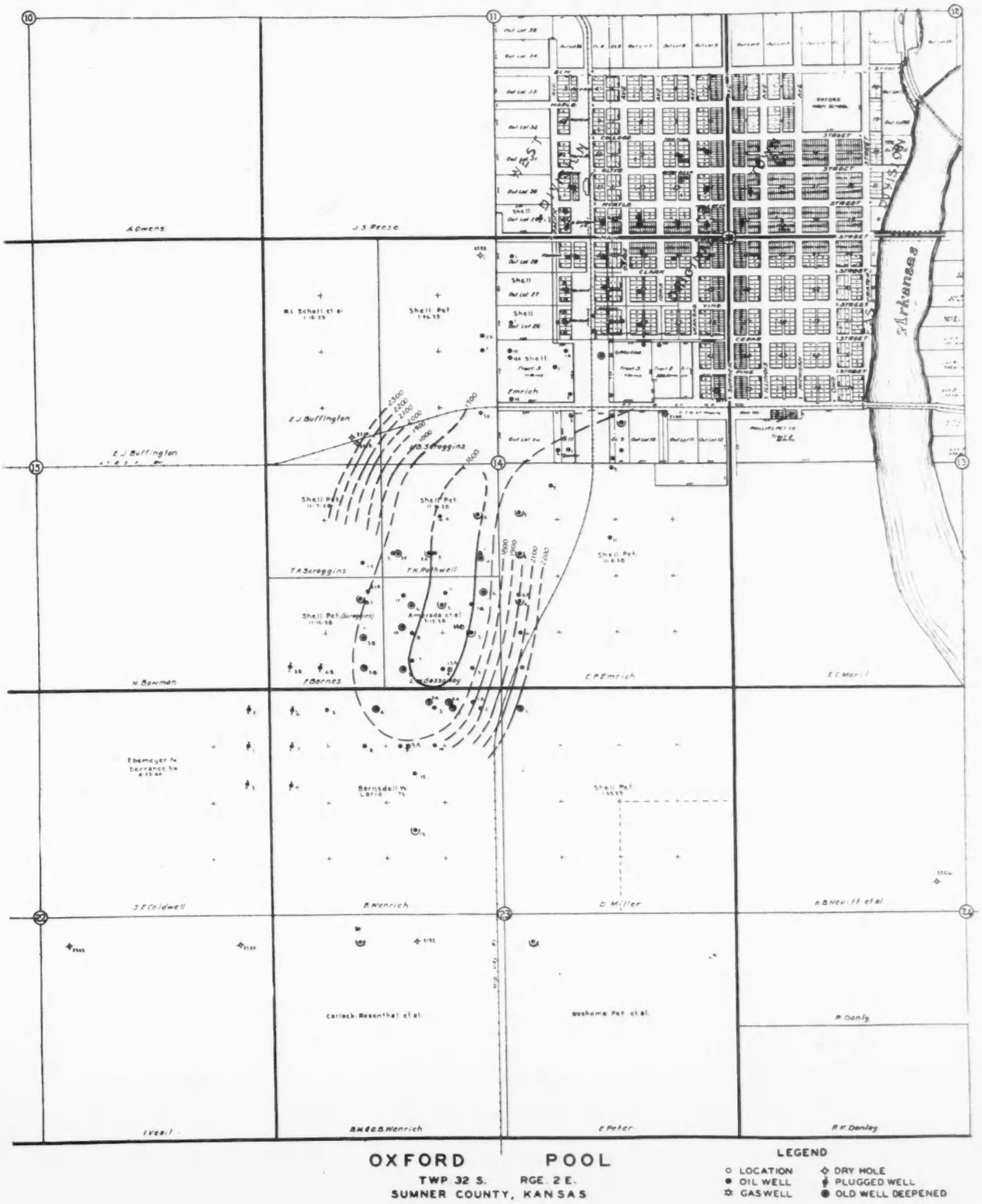
Probable Structural Condition

Structure contours drawn on a 100-foot interval are shown on the map presented herewith. In view of the lack of control it seems logical to assume that the lower structure will prove similar to that on the Stalnaker sand. The upper structure is, in general, two relatively small domes separated by a rather narrow saddle. Shell Petroleum Corporation's Miller 1, NW NW NW NE 23-32s-2e, which appears to be a very small well or dry hole and W. L. School et al's Buffington 1, SE SE SW NW 14-32s-2e, a dry hole at 3575 feet, both are more than 500 feet low and indicate extremely sharp southeast and northwest dips, thereby apparently limiting the productive area of the structure to a strip approximately one-third of a mile wide. That the productive length will exceed one mile or 200 acres does not seem to be believed generally by those who are familiar with the area. A truncation of the beds below the Pennsylvanian series is indicated.

Producing Conditions

Flow from the new producing horizon is unusual for the Mid-Continent area in that it is similar to

General view of the Oxford pool looking across Amerada-Sunray Gassoway lease.



An interpretation of the probable structural condition of the new producing horizon. Contour interval 100 feet.

TABLE 1

Completion Record of Deep Zone Wells in the Oxford Pool

Company and Farm	Well No.	32s-2e Description	Date Commenced	Date Completed	Total Depth	Initial Production	Top Producing Horizon	Casing Records	Remarks	
Amerada-Sunray, Gassoway	9	SW SW SE SW 14	6-26-35	8- 7-35	2886	5820	2825	10″ 951′ 6⅝″ 2830′	OTD 1633	Stalnaker sd. 1984-2047; lost circulation
Amerada-Sunray, Gassoway	10	SW NW SE SW 14	8- 7-35	9- 4-35	2901	6877	2832	6⅝″ 2838′	OTD 1646	Stalnaker sd. 1965-2114.
Amerada-Sunray, Gassoway	1-A	SW NE SE SW 14	8-14-35	9-18-35	2837	37466	2801	7″ 2801′	OTD 2071	1836 1st. Hr.; 1640 2nd. Hr. 4683 next Hours.
Amerada-Sunray, Gassoway	6	SE NW SE SW 14	8-14-35	9-18-35	2905	13638	2832	8¼″ 2836′	OTD 2090	715 1st. Hr.; 650 2nd. Hr.; 624 3rd. Hr.
Shell Petroleum, Barnes	2	SE SE SW SW 14	5-10-35	6-26-35	2905	1288 P.	2869	6⅝″ 2872′	OTD 2112	Swb. 575 24 Hrs treated 1000 gals.
Shell Petroleum, Barnes	3	NE SE SW SW 14	7- 2-35	8-14-35	2880	2517	2871	6⅝″ 2871′	OTD 2106	
Shell Petroleum, Rothwell	1-A	SE SE NE SW 14	8- 7-35	9-11-35	2871	12177	2797	.....	OTD 1261	
Shell Petroleum, Rothwell	3-A	SW SW NE SW 14	8- 7-35	9-18-35	2901	2893	2837	7″ 2840′	OTD 1643	Flow 685, 18 Hrs.; treated 3000 gals.
Barnsdall-Lario O. & G., Wenrich	4	NE NE NW NW 23	3-27-35	5- 1-35	2899	136 P.	2889	6⅝″ 2463′ 5⅓₆″ 2889′	OTD 2110	Making some water. Discovery well.
Barnsdall-Lario O. & G., Wenrich	3-A	NE NW NE NW 23	7- 2-35	8-21-35	2882	7996	2820	6⅝″ 2820′	OTD 1352	
Barnsdall-Lario O. & G., Wenrich	2-A	NW NE NE NW 23	8-28-35	9-18-35	2881	21799	2808	.....	New Test	

the flow from an artesian water well. The largest wells seldom flow much higher than the walking beam when opened to full capacity of the casing. Very little gas is present and that mostly is in solution. Although no analysis is available the gas is known to contain a relatively high percentage of hydrogen sulphide, which has led to the general impression that the crude may be sour. An analysis by the United States Bureau of Mines, the details of which have not been released, showed a sulphur content of .22 percent. This is slightly less than the average for 26 Kansas crudes that have been analyzed by the Bureau of Mines and Considerably less than the average of 66 Oklahoma crude oil samples. Gravity of the oil is 38 to 39.5 degrees A. P. I.

Development Methods

As shown in Table 1, all but one of the first 11 wells completed in the lower zone were old wells. One of these was an old Howard limestone producer, one a Severy shale producer, three Hoover sand producers and five Stalnaker sand producers. The eleventh completion was drilled from the surface. Deepening of the old wells is done with cable tools and tests from the surface are drilled to a point near the lower horizon with rotary tools and completed with cable tools. With a few exceptions all drilling is done with alternating-current electric equipment both in rotary and cable tool drilling. Two tests are reported to have lost circulation between 200 and 300 feet. One of these was reestablished in the ordinary manner, and the other only by the use of large amounts of cotton seed hulls, cement and the running of an extra string of casing. Some of the limestones encountered in the section are cavernous and fragments of stalactites and stalagmites have been recovered. That such a condition may exist in the lower horizon is a possibility. All drilling is being done by contract, the prevailing prices being: from the surface to the lower zone, $3.50 per foot; from 1600 feet, $4.75 per foot and from Stalnaker sand around 2020 feet, $5.00 per foot.

Probable Importance of the Lower Zone

The evidence now available indicates a productive area of not more than 200 acres, the oil from which is being driven by water. Temperature of the oil at the well head at Amerada Petroleum Corporation and Sunray Oil Company's Gassoway 1-A, was approximately 106 degrees which indicates that the oil-water contact may not be far from this well, although it is located in a favorable position on the structure. That the production probably will have a relatively short life is the belief of several geologists who have investigated conditions. However, its worth cannot be discounted because of its size initially and the economy with which it can be obtained. Many Kansas operators fear serious effects upon the state market situation since the pool has a possible outlet of approximately 17,000 barrels per day through the lines of three major purchasers. Continental Oil Company has a daily possible capacity of approximately 14,000 barrels; Barnsdall Oil Company, approximately 7000 barrels per day; and Shell Petroleum Corporation, approximately 6000 barrels per day.

When the first well came in with a potential of 304 barrels per day the allowable was set at 27.14 percent. This was decreased in June, 1935, to 26.51 percent on the same potential. In July two new wells had a combined potential of 1593 barrels and the allowable was reduced to 18.21 percent, a figure which was further reduced to 15.89 percent on the basis of the same potential during the following month. On September 1, 1935, five wells had a combined daily rating of 17,973 barrels and were allowed 6.77 percent up to September 16, when the allowable was cut to four percent on a potential of approximately 112,000 barrels per day from 11 wells. It is the plan of the oil and gas conservation department of the corporation commission to adjust potentials by the use of a decline curve which will be based on average decline for a group of representative wells through the short period of flow and projected through the 24-hour period. Several operators have indicated a desire to hold the new production down to such an extent that it will not work a hardship on the owners of production in other areas of the state. Kansas operators have shown a sincere willingness to fully cooperate with the state regulatory body and it is doubtful that the new pool will upset the situation. It could, however, easily do so without cooperation of the operators and the oil and gas conservation department.

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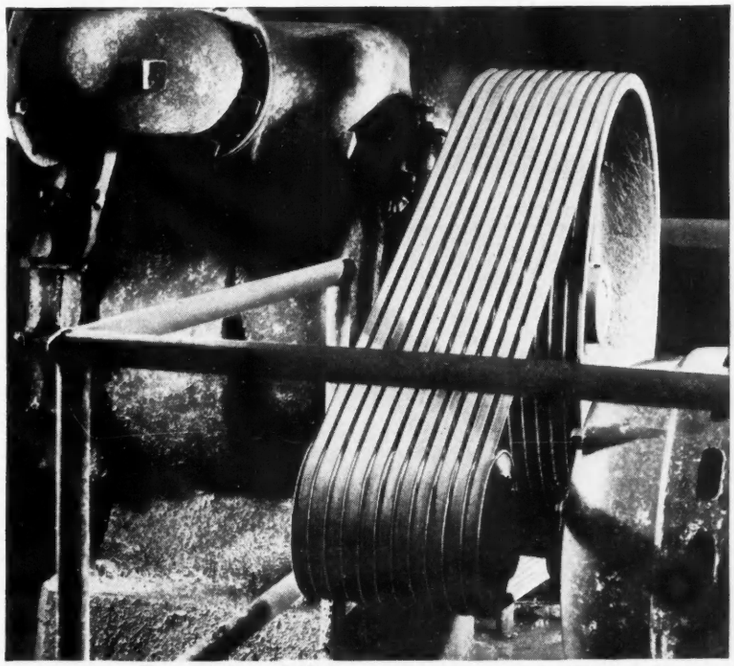

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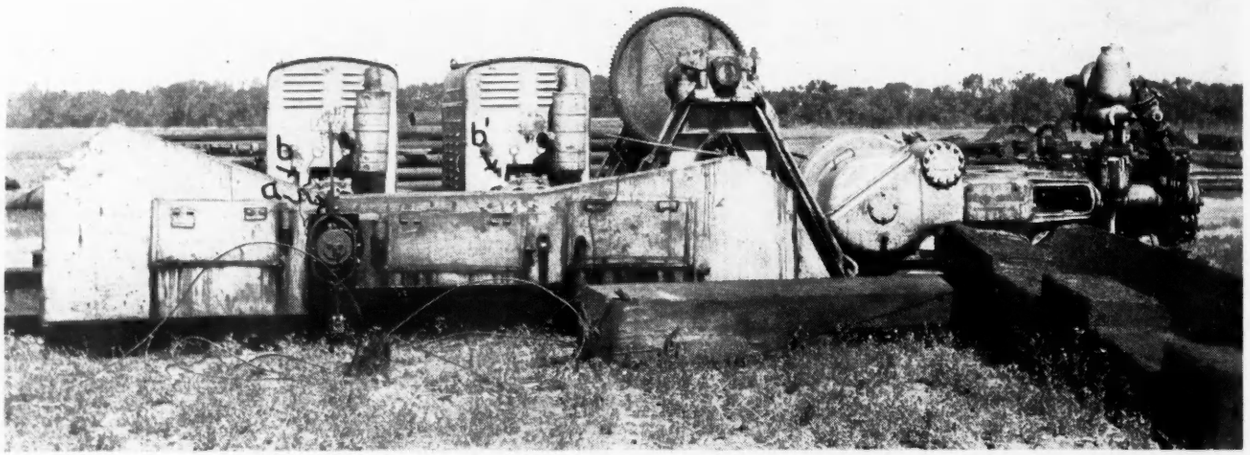

FIGURE 1
The combination rotary and cable tool rig of Haynes Bros. Drilling Company from the transmission side of the power unit.

Convertible Drilling Rig

DESIGNED SO CAN BE CHANGED FROM ROTARY TO CABLE TOOLS IN TWO HOURS

By FLOYD SWINDELL, Staff Writer

IN the past two years and especially during the past year more drilling rigs of radically different design have been introduced into the northern Mid-Continent than during any other period in the history of its oil development. Scarcity of water in many areas and the relatively low prices being paid for contract drilling have been the incentive toward designs based on economy of operation, portability and simplicity.

A combination rotary-cable tool outfit now being operated in western Kansas by Haynes Bros. Drilling Company has attracted the attention of a large number of men engaged in exploration in that area. The rig consists of two units, the unified draw works mounted on one skid and the power, cable tool and pump unit mounted on another. Since the draw works does not differ materially from other unified draw works it will not be described. Figure 1 is a photograph of the latter unit from the transmission side and Figure 2 a photograph of the other side of the same unit. When moving in to rig up the front end of the unit is bolted to the draw works at point c in Figure 2. Immediately behind the draw works is a reverse countershaft with forward and reverse friction clutches so that it may operate either way or be placed in neutral position. Behind the reverse countershaft are two 100-horsepower gasoline motors mounted side by side.

Next to the rear motor is the cable tool unit which includes a countershaft (e Figure 2) equipped with a jaw clutch (f Figure 2). At the rear of the skid is mounted a five-inch by 12-inch power pump rated to deliver 200 gallons per minute at 500 pounds pressure while operating at 50 to 60 strokes per minute. The engines are five-inch by 5½-inch, six-cylinder, rated at 103 horsepower at 1400 revolutions per minute.

Operation as a Rotary Rig

Figures 1 and 2 were made immediately after the completion of a wildcat test in southeastern Reno County, and after the unit had been skidded away from the derrick. As shown it is rigged up for rotary drilling. Each engine drives through a friction clutch designated in Figure 1 as b and b'. The engines are

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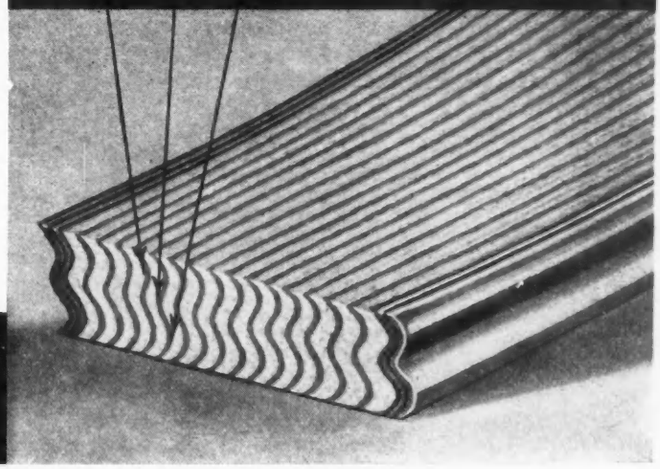
Los Angeles, California

3 Points of Resiliency



This cross-section view of a Garlock Guardian Gasket shows the three points of resiliency provided by the unique construction of the metal strips which alternate with layers of asbestos.

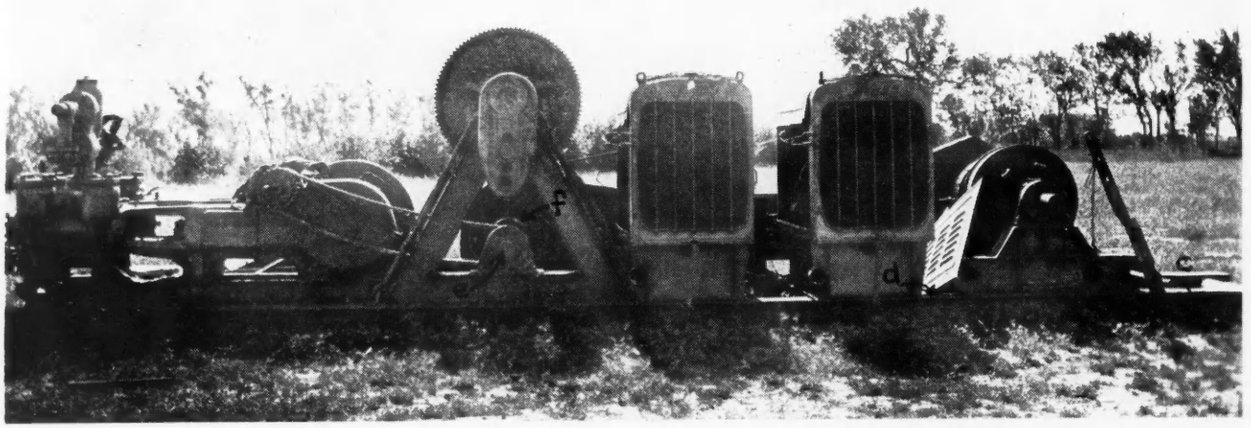


FIGURE 2
Side view showing how pump is driven from the rear countershaft.

started with both of these clutches disengaged or out. With clutch b engaged the front motor drives through a multiple type, high-speed roller chain to the reverse countershaft which in turn drives either forward or reverse the draw works through an ordinary rotary drive chain. With the rear motor started and when ready to start the pump jaw clutch (a Figure 1) is disengaged, allowing the rear motor to drive the rear countershaft through a multiple type high speed roller chain. Jaw clutch (f Figure 2) has been previously engaged. The pump is driven from the rear countershaft as shown in Figure 2 through a high-speed multiple chain.

To stop the pump clutch b′ is disengaged as is jaw clutch f. Both motors are used in making trips in and out of the hole. Before starting a trip clutches b and b′ are disengaged. Jaw clutch a is then engaged and then b and b′. Both motors are then driving to the reverse countershaft and through it to the draw works. The motors may be compounded to the pump by placing the reverse countershaft in neutral position, disengaging b and b′, engaging jaw clutch f and then engaging b and b′. The latter procedure is unnecessary under normal operating conditions and it is described merely to show the flexibility of the rig. With the arrangement of the clutches it will be seen that the front motor may be used to drive the pump and the rear motor may be used to drive the draw works.

Operation as a Cable Tool Rig

When converting to cable tool drilling the lower end of the A-frame sampson post bolts to the power skid at point (d) in Figure 2 and the upper end bolts to the headboard on top of the draw works assembly. A 31-foot regular 24-inch, 110-pound silicon steel walking beam is used along with a regular steel pitman equipped with self aligning bearings. The cable tool unit immediately in front of the mud pump is a regular five-inch, four-hole bandwheel crank and crank shaft supported by jackpost bearings on an A-frame steel jack post. The upper shaft is equipped with a 132-tooth sprocket keyed on to the shaft. The sand reel is set in front of the rotary draw works and driven off of the rotary drive sprocket. When ready to drill with cable tools the chain between the pump and the rear countershaft is removed from the pump and placed over the 132-tooth sprocket. The rig is then controlled in the same manner as that described for rotary drilling except for the fact that normally only one motor is used.

Drilling Procedure

No attempt has been made by the operators to determine economy of water.

Drilling with the Haynes rig is done with using three- or four-inch drill pipe. In Kansas many of the beds encountered in the normal section are highly porous and it is only with great difficulty that circulation can be maintained with rotary tools while drilling through some portions of the section. This is especially true of the Mississippi chat which produces over a wide area. With the rig described herein drilling usually is done from the surface to near the top of the chat with rotary tools and the chat section drilled with cable tools. The change from rotary to cable tools can be accomplished in approximately two hours assuming the drill pipe to be out of the hole and laid down. Seven-inch casing may be set in the 8⅝-inch hole. Although a smaller hole is drilled and the drilling speed is not as great as with the larger more powerful rigs, this disadvantage is largely if not entirely overcome by the economy of fuel and water and the difference in rigging up time.

With the entire unit mounted on one skid base, it may be easily and quickly moved by truck from one location to another. This factor, together with the rapidity with which it may be hooked and dismantled is another important feature of the rig.

Venting of Lease Tanks

WHEN HEAVY GAS IS PRODUCED IN SMALL VOLUMES IMPROVED BY NOVEL SCHEME

By ELTON STERRETT

VENTING of a battery of tanks on a lease, to remove the gas given off by the crude after being passed through the separator, often introduces a fire hazard; especially is this the case in fields such as the East Texas, where the gas is heavier than air, and tends to displace downward, instead of rising to become dissipated far above possible sources of ignition.

In East Texas, where the gas averages approximately one-sixteenth heavier than air, it is customary to carry the vent line on A-frames or light trestles rising slightly on a gradient from the level of the tank tops, and, at some point far enough from the battery to remove the danger, to install a riser or stack to serve the flare for burning the gas while the wells of the lease are being flowed.

Due to the low output per well allowed by proration regulations, at no time is the flow of gas from the top of a tank being filled very brisk and, unless watched carefully, the column is apt to roll lazily over the lip of the flare, starve the blaze, extinguish it, and flow downward, to form dangerous pockets in low spots of the surrounding terrain.

One producer, experiencing considerable trouble with venting, struck upon the novel plan of taking gas under pressure from the separator and using a small stream of it in a jet, or ejector, which was fitted within the riser to the flare.

Cutting the four-inch riser at a convenient point near the top, a restricted section was formed by joining two 4-inch by 2½-inch swages at their small ends and welding this unit into the four-inch line. Entering the riser below the lower swage was a quarter-inch line carrying the riser "J", long enough to extend up to the smallest diameter of the doubled swages and centered in their bore.

When gas under pressure from the separator is admitted through the quarter-inch line and blown through the jet "J," this rapidly flowing stream tends to create a partial vacuum below it, drawing gas from the tanks so effectively that it was found possible to do away with the elevated vent line, lowering the pipe to the ground and running it through a trench to the point where the flare stack could advantageously be set.

The double swage type of ejector throat shown in the sketch is effective, especially for low gas velocities, as there is no dead or eddy-forming space to encourage dead gas to bank up beyond the jet. A simpler form of ejector is indicated by the dashed lines at "A" and "A_1, A_1," in which a single swage, its little end up at "A," is welded to the riser, and the cut off section then slipped down in the position "A_1, A_1" and there welded.

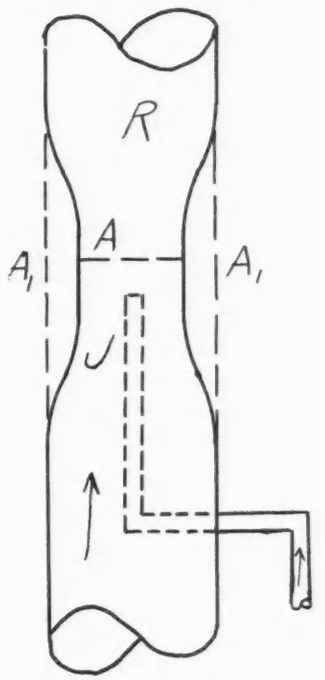
This last design makes a smoother appearing job from the outside, but the formation of a pocket about "A" in the annular space between the swage and four-inch pipe slows down and makes for intermittent flow at low heads of gas, and the slight saving in initial cost is soon absorbed in the additional attention the device requires.

The customary flame arrestors and other safety devices are used with these ejectors.

VENT LINE EJECTOR

R is the riser.
J is the jet.
A is the one-swage level.
A_1, A_1 is the alternate set of the riser.

Arrows indicate gas flow.



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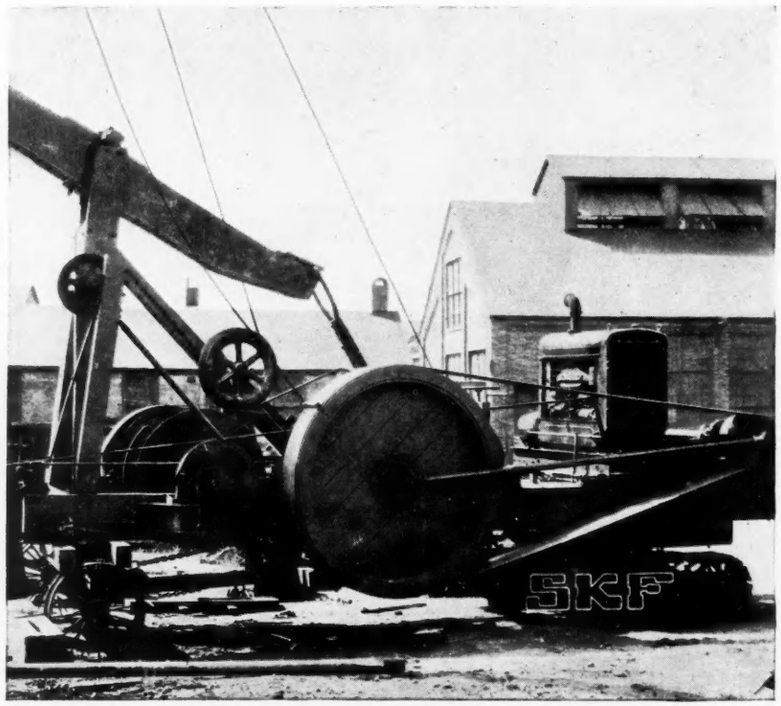

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The SKF Spherical Roller Bearings in this transportable rig haven't any cinch. They carry the entire weight of the drill stem, up to 150,000 pounds at 3,800 feet, a big job for any bearing. Yet they carry big loads easily, their self-aligning characteristics permitting free shaft movement.

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Prices Unchanged

MARKETS REMAIN GENERALLY STEADY OUTSIDE OF CALIFORNIA

THE market situation continued last week virtually unchanged from the previous week. California prices remained depressed, with retail gasoline postings sagging somewhat further in the Los Angeles area. East of California prices were generally unchanged, from well to service station.

Although the West Coast situation, because of its long duration, is causing some fear for the national price structures, there has not occurred so far any serious weakening of the markets outside California.

Some observers are inclined to look optimistically on the California conditions. A factor considered sifinificant in that connection is the fact independent refiners have been paying premiums as high as 30 to 40 cents a barrel above the new, reduced postings for California high gravity crudes. It is believed by some that such a situation cannot continue indefinitely without resulting in higher official postings. However, the independent refiners last week cut their premium offers to 10 to 20 cents a barrel, after wholesale and retail gasoline prices had declined further.

In Southern California, some independents began retailing gasoline for as little as nine cents a gallon, including the four cents taxes, although others held to about 10 cents, while major companies retained a 11½ cent minimum posting. In the meantime, the price at the independent refineries was averageing around 4 cents, exclusive of taxes, although there were some offerings at 3½ cents. Independent producers have not been successful in their efforts to prorate fields voluntarily.

Mid-Continent Prices Same

At Mid-Continent refineries the prices of both gasoline and kerosene continued unchanged from the previous week, quotations being only fractionally under the highest of the year, and around one cent a gallon higher than at this time last year.

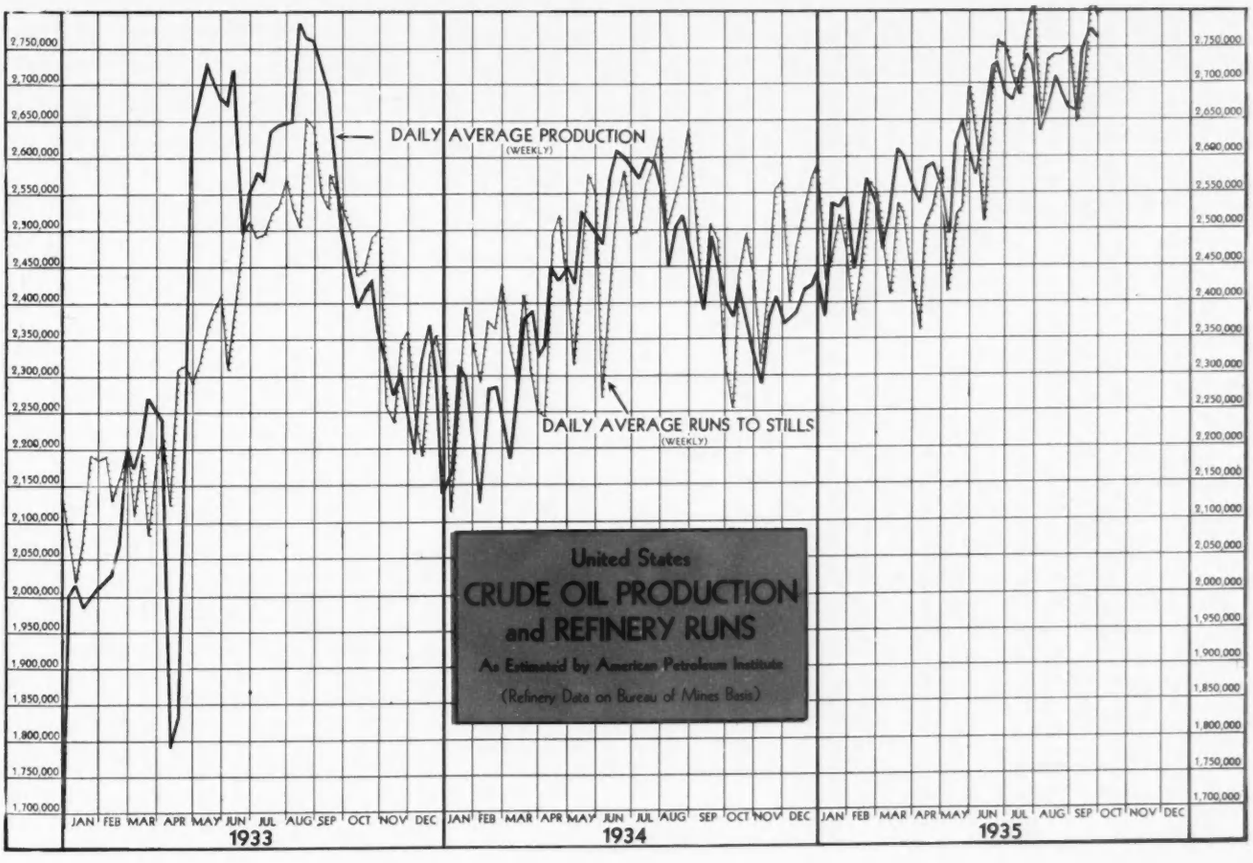
At East Texas plants third grade U. S. motor gasoline, below 62 octane, remained at 4½ cents a gallon; standard grade, 62-67 octane, at 5 cents; and premium grade, 68-70 octane, 5½ cents. Corresponding prices in both North Texas and Group Three (Oklahoma) area were 4⅝, 5⅛, and 5⅝ cents.

Kerosene continued in East Texas and North Texas at 3⅛ cents a gallon, and in Oklahoma at 3¼ cents.

South Texas Market Firm

A feature of Mid-Continent crude market has been the recent strengthening of the demand for output of Southwest Texas fields yielding low gravity oil. The demand has been improved by several foreign contracts made for crude from the Mirando and Samfordyce areas. Such purchases have included buying by the Italian government and private corporations. The oil is in favor currently because of seasonably rising demand for fuel oil, as well as because of its adaptability for use in the raw state in diesel engines.

Since stocks of the Southwest Texas crude at nearby ports have been sub-



stantially rduced, while the demand is now strong, the 75-cent crude posting for the area is firm. In fact, it is currently rumored that there is a possibility of an increase in allowable as well as restoration of the price to 80 cents per barrel. This crude was cut to 75 cents several months ago, following the weakening of the local market.

PLANT ACTIVITY UP

Increase threatens East Texas market

INCREASED refinery operations in East Texas threatens to disturb the firm refined oil market that has prevailed for the past several weeks. Active plants were increased to 27 the past week with a corresponding gain in gasoline output that may break down the efforts of plant leaders to maintain a tank truck price of nine cents per gallon, including taxes amounting to five cents.

Majority of the plants listed as resuming operations are without permanent well connections and are taking advantage of the favorable refined oil market situation to process batches of crude purchased at random.

Resourceful plant operators continue to enjoy apparent freedom in their hot oil activities, with approximately 68,000 barrels of oil processed daily during the week ending September 30, including about 46,800 barrels identified as confiscated and illegal production.

Reorganization of the state's proration enforcement staff the past week brought renewed pledges that violators would be forced out of business. Such promises are made at regular intervals and frequently have been followed by increased shipment of products from the field.

Announcement that hereafter the state would require confiscated production to be removed from earthen pits and impounded in steel tankage to be provided for such purpose threatens to cut in on hot oil activities. Such a move would break up the practice of adding fresh stocks of hot oil to stocks that have been cleared by the confiscation route.

East Texas Tank Car Shipments

Week Ending September 29, 1935

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	646	5,255,449
Fuel Oil	309	2,813,244
Casinghead Gasoline	229	1,982,584
Distillate	118	955,252
Topped Crude	49	457,544
Crude Oil	41	383,287
Gas Oil	43	349,255
Kerosene	32	255,488
Residuum	26	212,698
Naphtha	5	40,852
Total	1,498	12,705,653
Total Previous Week	1,380	11,776,036
Interstate	628	.....
Intrastate	499	.....
Coastwise	371	.....
Total	1,498	.....

LITTLE CHANGE

Small retail reduction in Southern California

THE market situation as a whole on the West Coast has shown practically no change the past week, although the situation in the retail field in Southern California has eased off and a large number of small retail stations have reduced their selling price to 8.9 cents a gallon for gasoline, compared to 9.9 cents by larger independent stations and 11.5 cents for third grade at major company owned or controlled service stations. In the San Francisco area, old prices are holding with indications that no further reductions will be made. The same is true for other western states.

The loading rack price for gasoline at independent refiners in Los Angeles area, has reached a low of 7.5 cents, including four cents tax, but this is the low and not the average. The average is close to eight cents. Since the last gasoline price reduction, independent refiners have reduced their premium offers to 10 to 20 cents a barrel for light refinable crude. Previously some of them had offered as high as 30 cents. Some authorities expect further gasoline price cuts and further crude oil posted price cuts, while others feel that the major companies will let things ride as they are until the first of the year. One guess is as good as another, since it's all largely guess work.

The price cutting is largely local. Those in a position to sell in cargo lots are holding fairly well to old quotations, and apparently don't worry whether they sell anything or not. They are not, at least, willing to accept low offers for cargo shipments. They are sticking to their quotations regardless.

Major companies are not taking a real part in the action under way by the independents as to new voluntary proration of crude oil production in the various fields. They will do their part, whatever the decision might be.

LARGE REFINERY

Polymerization plant to be built at Texas City

New York.—Pan-American Refining Corporation has contracted with Foster-Wheeler Corporation, New York, for construction of a catalytic polymerization plant at the Pan American's oil refinery at Texas City, Texas. It is indicated unofficially the cost will be around $1,000,000.

Through the process involved, waste gases at refineries are converted into high anti-knock gasoline, the latter being valuable for blending with ordinary gasoline.

Output of the plant will be supplied to American Oil Company, East Coast marketing subsidiary of the Pan-Amer-

Summary of Wells Completed in the United States
Week Ending September 29, 1935

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1935	Total Completions this date 1934
Alabama	...	...	...	...	.....	4	3
Arkansas	3	...	...	3	.....	...	62
California	16	14	1	1	16,335	635	296
Colorado	...	...	...	...	.....	8	14
Illinois	...	...	...	...	.....	9	14
Indiana	...	...	...	...	.....	158	130
Kansas	29	17	4	8	11,205	1,046	682
Kentucky	...	...	...	...	.....	129	144
Louisiana	11	6	2	3	3,640	...	572
Michigan	16	9	...	7	8,935	408	358
Mississippi	...	...	...	...	.....	16	28
Montana	7	3	1	3	355	122	150
New Mexico	7	5	...	2	6,050	216	86
New York	...	...	...	...	.....	...	4
Ohio	32	2	20	10	72	1,096	733
Oklahoma	48	28	2	18	26,595	1,769	1,392
Pennsylvania	2	...	2	...	.....	96	225
Texas	237	172	2	63	357,320	8,981	7,277
Utah	...	...	...	...	.....	1	3
West Virginia	17	2	11	4	6	361	268
Wyoming	1	1	...	...	2,735	54	37
Total this week	426	259	45	122	433,248	15,773	12,584
Total last week	420	275	33	112	551,050	...	...
Total this year	15,773	10,383	1,290	4,100	30,691,223	...	...

Comparison of Permits Granted for New Wells

STATE	Week Ending Sept. 29	Total this Mo.	Total this Year	Total this Date Last Year	1934 Year Total
Arkansas	4	11	45	56	100
California	12	68	703	411	629
Louisiana	7	61	635	631	799
Kansas	29	105	876	727	1,015
Michigan	16	65	517	359	460
Oklahoma	47	189	1,675	1,496	2,045
Texas	206	1,035	8,353	7,874	10,550
Total	321	1,534	12,804	11,554	15,598

ican Petroleum and Transport Company.

Actual construction is scheduled to begin in less than 60 days, and completion is expected within nine months.

PRODUCTION DOWN

Oklahoma and Kansas are below indicated demand

CRUDE oil production in the United States for the week ending October 7 was down in every important producing area in the country. The cut in allowables in Texas and the efforts on the West Coast to remedy the price situation there, together with normal downward trends in Oklahoma and Kansas, largely accounted for the drop to 2,718,125 barrels per day. Despite this material decline from the previous week production was still some 163,925 barrels over the indicated market demand for October as estimated by the Bureau of Mines.

As allowable quotas were reached in the latter part of the month daily production in Oklahoma and Kansas declined quite a little. The 475,450, barrels Oklahoma average per day for the week just passed was 16,700 barrels under the daily output for the previous week, and 17,450 barrels under the indicated market demand for October. Kansas, with an average daily production of 143,450 barrels, was about 9500 barrels under the production of the previous week and around 3650 barrels under the daily indicated demand for October.

Keen interest centered on the production gauges in California was again rewarded this week with a drop of 12,500 barrels per day from the daily output of the previous week. This is the most noticeable drop that has occurred on the Pacific Coast in some time. The principal fields figuring in this decline include Mountain View, Midway-Sunset, Inglewood and Playa del Rey. Kettleman Hills continued to rise, having gained over 5000 barrels per day in the past two weeks. The daily average production of the state for the week just passed of 622,000 barrels is still 124,300 barrels over the market demand estimates for October.

In Texas the cut in allowable quotas, made effective by the railroad commission on September 23, was responsible for a drop of a little over 9000 barrels. The Yates pool in West Texas, the Van pool in East Central Texas, the East Texas field and the Gulf Coast area were the principal fields revealing the allowable cut. An average of 1,029,950 barrels daily were produced during the week just passed, which is some 4450 barrels over the indicated daily market demand for October, according to estimates of the Bureau of Mines. Hot oil in East Texas (not included in above figures) recovered part of the decline estimated to have occurred the previous week and again reached 50,000 barrels per day.

In Louisiana the daily production declined slightly in both the northern part and the Gulf Coast, resulting in a total drop of some 800 barrels for the state as a whole. The average daily

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING October 7	September 28
TEXAS—		
Texas Panhandle	54,800	54,000
North Texas	58,250	59,500
West Central Texas	25,300	26,000
West Texas	152,850	154,500
East Central Texas	46,500	47,000
*East Texas Field	441,400	444,700
†South Texas	59,850	59,800
†Texas Gulf Coast	191,000	193,500
*Total Texas	1,029,950	1,039,000
OKLAHOMA—		
Oklahoma City	131,600	137,350
Seminole Area	118,450	125,575
Tatums	4,550	4,700
Lucien	9,750	9,450
Fitts	19,950	20,925
Edmond	3,400	6,121
Others	187,750	188,029
Total Oklahoma	475,450	492,150
KANSAS—		
Ritz-Canton	9,300	7,375
Voshell	3,575	4,325
Nikkel-Hollow	5,725	6,000
Sedgwick	7,050	7,675
Oxford	4,875	5,400
Burrton-Haury	17,775	18,300
Lorraine	7,375	7,400
Others	87,775	96,475
Total Kansas	143,450	152,950
LOUISIANA—		
North Louisiana	26,600	27,025
Louisiana Gulf Coast	121,500	121,900
Total Louisiana	148,100	148,925
ARKANSAS	30,375	30,350
CALIFORNIA—		
Long Beach	75,500	76,000
Santa Fe Springs	54,500	55,000
Huntington Beach	41,500	41,500
Dominguez	21,000	20,500
Inglewood	13,500	15,000
Ventura Avenue	33,500	33,500
Seal Beach	6,000	6,500
Midway-Sunset	54,000	57,000
Elwood	13,500	13,000
Kettleman Hills	93,000	92,000
Mountain View	36,000	41,000
Playa del Rey	17,000	18,000
Others	163,000	165,500
Total California	622,000	634,500
MOUNTAIN STATES—		
Wyoming	37,600	37,500
Montana	13,200	13,400
Colorado	4,700	4,400
Total Rocky Mountain States	55,500	55,300
NEW MEXICO	56,500	57,000
EASTERN STATES	104,800	104,700
MICHIGAN	52,000	49,400
*Total United States	2,718,125	2,764,275
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	50,000	45,000
Grand Total, including surreptitious production	2,768,125	2,809,275

†Coastal District of South Texas is included with Texas Gulf Coast.

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks, and Cracked Gasoline Production, Week Ended September 28, 1935

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term. in Trans. & Pipe Lines	Total at Refys. Term. etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	612	612	100.0	501	81.9	4,501	9,082	13,583	910	275	13,419	534	534	100.0	110
Appalachian	154	146	94.8	115	78.8	1,127	693	1,820	266	100	910	79	78	98.7	24
Ind., Ill., Ky.	442	424	95.9	357	84.2	4,089	3,430	7,519	661	45	4,794	349	348	99.7	112
Okla., Kans., Mo.	453	384	84.8	277	72.1	2,453	1,586	4,039	456	765	4,888	256	228	89.1	71
Inland Texas	330	160	48.5	91	56.9	975	59	1,034	230	1,870	1,575	148	105	70.9	23
Texas Gulf	617	595	96.4	558	93.8	4,495	309	4,804	1,556	165	11,674	399	393	98.5	129
Louisiana Gulf	169	163	96.4	121	74.2	471	521	992	286	.....	4,560	77	74	96.1	22
North La.—Ark.	80	72	90.0	39	54.2	169	116	285	51	130	459	46	44	95.7	8
Rocky Mountain	97	60	61.9	47	78.3	513	.....	513	119	95	780	46	39	84.8	13
California	852	789	92.6	512	64.9	6,432	1,955	8,387	980	2,280	65,576	280	280	100.0	55
TOTALS WEEK: September 28, 1935	3,806	3,405	89.5	2,618	76.9	25,225	17,751	42,976	5,515	5,725	108,635	2,214	2,123	95.9	567
September 21, 1935	3,806	3,405	89.5	2,643	77.6	24,834	17,738	42,572	5,534	5,775	107,082	2,214	2,123	95.9	566

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week September 28, 1935 compared with September, 1934 Bureau figures.

Estimate B. of M. Basis, September 28, 1935	2,795		600
Estimate B. of M. Basis, September 21, 1935	2,820		600
U. S. B. of M., September, 1934: Daily Average Crude Runs	2,446	U. S. B. of M., September, 1934: Daily Average Cracked Production	516

(a) Amount of Unfinished Gasoline contained in Naphtha Distillates.
(b) Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

production of 148,100 barrels is still 23,000 barrels over the daily indicated demand for October.

The other sections of the country show very little change with the exception of Michigan, which has gained around 5500 barrels per day in production during the last two weeks. Its daily average of 52,000 barrels for the week just passed is about 12,500 barrels over the indicated market demand for October, even though the October figure was estimated to exceed the September demand by 1500 barrels.

AUGUST OUTPUT DOWN

Bureau of Mines shows a 669,000-barrel decline

Washington, D. C.—Oil production in August totaled 84,816,000 barrels, a decline of 669,000 barrels from the July output of 85,485,000 barrels but 5,711,000 barrels above the August, 1934, output of 79,105,000 according to the monthly report of the Bureau of Mines, issued Friday.

The daily average production for the month, the bureau announced, was 2,736,000 barrels, 21,600 barrels under July but 81,000 barrels above the bureau's recommendation for the month. The excess production for the country as a whole was slightly below that for California alone, indicating that production east of California was below the recommended level for the first time since November, 1933.

"Production in all the leading states except California and Louisiana declined in August," the bureau commented.

"The daily average output in California increased to 600,100 barrels following the breakdown of proration in some fields. Production in Louisiana continued to set new records, the state was also in the limelight because of the developments of the new field at Rodessa. Production in East Texas showed little change, but declines in other districts brought the daily average for the state down to 1,059,600 barrels from 1,074,100 barrels in July.

Heavy Withdrawals

"Withdrawals from crude oil stocks continued heavy as refinery operations were maintained at high levels. Daily average crude runs in August were 2,729,000 barrels, which is slightly below the average in July, but sufficiently in excess of production to be the chief factor in reducing stocks of refinable crude oil from 329,351,000 barrels on July 31, to 324,966,000 barrels on August 31.

"Despite an increase in the yield of gasoline by cracking, the average declined from 45.3 percent in July to 44.8 percent in August. The demand for motor fuel continued to fulfill the most optimistic estimates and to establish new records. The domestic demand for motor fuel in August, 1935, was 42,901,000 barrels, an increase of 10 percent over the domestic demand in August, 1934. Exports of motor fuel in August fell considerably short of the levels of June and July, yet the total of 2,822,000 barrels was 30 percent higher than a year ago. Stocks of finished and unfinished gasoline reflecting the heavy movement from refineries and terminals, declined 4,746,000 barrels in August or from 56,446,000 barrels on July 31 to 51,700,000 barrels on August 31. The latter was not far above the objective as of September 30. The demand for fuel oil, which had been registering the usual seasonal decline, showed a marked increase in August.

Price Index Lower

"According to the Bureau of Labor Statistics, the price index for petroleum products for August, 1935, was 52.4 compared with 52.9 for July, 1935, and 51.6 for August, 1934. The refinery data of this report were compiled from refineries having an aggregate daily recorded crude oil capacity of 3,690,000 barrels. Those refineries operating during August, 1935, at 74 percent of their capacity, compared with an operating ratio of 74 percent in July."

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to October 4, 1935)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, W'kler	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Anahuac-Dickinson	30— .94	2¢	40— 1.14	8-20-35
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and S. W. Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.80			6-29-35
Saxet	*.80			6-29-35
Mirando	*.75			6-29-35
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Port Lavaca	*.97			
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
El Dorado East Field and Smackover	*.70			9-29-33

DISTRICT	Low Grav.	Dif.	High Grav.	Date
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
Iowa, Cameron Mds.	Below 20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33
Elk Basin	*1.17			9-29-33
Grass Creek (Light)	*1.17			9-29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.20			7-19-35
Lance Creek	*1.02			8-25-33
Osage	* .62			8-25-33
Cat Creek	*1.07			8-25-33
Cut Bank	*1.45			9-29-33
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	* .75			9-29-33
Mid-West States				
Lima	*1.15			2- 1-35
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.13			5-22-35
Pennsylvania				
Bradford	*2.00			9- 6-35
Sw. Pa. Pipe Line	*1.72			9- 6-35
Eureka Pipe Line	*1.67			9- 6-35
Buckeye Pipe Line	*1.52			7-16-35
Corning Grade	*1.32			10- 2-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
† GulfCoast prices as posted by Humble Oil & Refining Company.

* All gravities—flat rate.

* All gravities—flat rate.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
March 5, 1933	.....	.....	Cut 24
May 2, 1933	.....	Cut 19	.....
May 9, 1933	Cut 20	.....	.....
May 22, 1933	Up 10	.....	.....
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Revised
September 6, 1935	Up .05	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of grass value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅜ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

CALIFORNIA

(All gravities above those quoted take lowest price offered in that field)
Effective August 29, 1935

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey[1]	Olinda-Brea Canyon	Athens Rosecrans Dominguez	Elwood Terrace[2]	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Mountain View	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	....	$.65	$.65	$.65	$.65	$.65	....	$.57	$.57	$.57	$.57	$.57	$.57
15-15.9	.65	.65	.63	.63	.61	.63	....	....	.63	.63	.63	.63	.63	....	.57	.57	.57	.57	.5	.57
16-16.9	.63	.63	.61	.61	.58	.61	....	....	.61	.61	.61	.61	.61	....	.57	.57	.57	.57	.57	.57
17-17.9	.61	.61	.59	.59	.55	.59	....	....	.59	.59	.59	.59	.60	....	.57	.57	.57	.57	.57	.57
18-18.9	.60	.60	.57	.57	.52	.57	....	....	.58	.57	.57	.58	.59	....	.57	.57	.57	.57	.57	.57
19-19.9	.58	.58	.55	.56	.49	.56	....	....	.57	.56	.55	.57	.58	....	.57	.57	.57	.57	.56	.56
20-20.9	.57	.57	.53	.55	.46	.55	....	....	.56	.55	.54	.56	.57	....	....	.57	.57	.57	.55	.55
21-21.9	.56	.56	.52	.54	.43	.54	....	....	.55	.54	.53	.55	.56	$.57	....	.56	.56	.56	.54	.54
22-22.9	.55	.55	.51	.53	.40	.53	....	....	.54	.53	.52	.54	.55	.56	....	.56	.56	.56	.53	.53
23-23.9	.54	.54	.50	.52	.39	.52	$.55	....	.53	.52	.51	.53	.54	.55	....	.55	.55	.55	.52	.52
24-24.9	.53	.53	.49	.51	.38	.51	.54	....	.52	.51	.50	.52	.53	.54	....	.54	.55	.54	.51	.51
25-25.9	.52	.52	.48	.50	.37	.50	.53	....	.51	.50	....	.51	.52	.54	....	.53	.54	.54	.50	.50
26-26.9	.51	.51	.47	.49	.36	.49	.52	....	.50	.49	....	.50	.51	.53	....	.52	.53	.53	..	....
27-27.9	.50	.50	.46	.48	...	.48	.51	....	...	.48	....	....	.50	.52	....	.51	.52	.53	..	....
28-28.9	.49	.49	.45	.47	...	.47	.50	....	...	.47	....	....	.49	.51	....	.50	.51	.52	..	....
29-29.9	.48	.48	.44	.46	...	....	.48	....	...	.46	....	....	.48	.50	....	.49	.50	.51	..	....
30-30.9	.47	.47	.43	.45	...	....	.46	....	...	Kettleman Hills			.47	.49	....	.48	.49	.50	..	....
31-31.9	.46	....	...	.44	...	....	.45	....	...				.46	.48	....	.47	.48	..	..	....
32-32.9	..	....	....	.43	...	....	.44	....	...				.45	.47	....	.46	.47	..	..	....
33-33.9	....	....	...	...	...	....	....	$.50	...		$.62		.44	.46	....	.45	.46	..	..	....
34-34.9	....	....	...	...	...	....	....	.49	...		.61		.43	.45	....	....	....	..	..	....
35-35.9	....	....	...	...	...	....	....	.48	...		.60			.44	....	....	....	..	.	....
36-36.9	....	....	...	...	...	....	....	.47	...		.59		....	.43	....	....	....	..	..	....
37-37.9	....	....	...	...	...	....	....	.46	...		.58		....	.42	....	....	....	..	..	....
38-38.9	....	....	...	...	...	....	....	....	...		.57		....	.41	....	....	....	..	..	....
39-39.9	....	....	...	...	...	....	....	....	...		.56		....	....	....	....	....	..	..	....

[1] Subject to Field Gathering Charge of 5 cents per barrel.

[2] F.O.B. Ship.

Let's Go to Mexico

GEOLOGISTS PROGRAM OFFERS MANY EVENTS OF INTEREST

BY DR. J. BRIAN EBY

WHEN a large body of American oil geologists plan to assemble in a foreign capitol it should be news, if not to the State Department and public, at least to other geologists. To Texas oil geologists, who have rotated for nearly 20 years from Houston to Tulsa and other Mid-Continent and coastal cities, this is something else again in the way of conventions. With unquestioned discernment, the San Antonio Geological Society has picked the time and place as October 16 to 19 in Mexico City, Mexico.

In Houston, we are advised over 350 reservations are posted. This augers success beyond the ken of the original promotors. With vacations scarcely out of mind and in a distinctly off-convention season, we look for the drawing power, the lure that brings them out. We have not far to look. The program is studded with items of such promise as to stir the most flinty executive, the hardest rock geologist or the most passive paleontologist.

Some will thrill to see the ballrooms and dungeons of Chapultepec Castle. Others so minded are a-twitter for the reception at the American Embassy. The Symphonic Orchestra Concert at the National Theatre, cannot fail to have tremendous appeal. There will be a trip to the Desert of the Lions but, I am told, it is not a desert and there are no lions, and so more suspense. After the trip to the lionless desertless Desert of the Lions, the program to quote, calls for a "dinner dance at the (Don Quixote) room of the Regis Hotel. Wine, women and song, a la Mexicana." That ought to bring out the geologists belonging to the "tired business men" group, and such field men as are restricted to the brush year in and year out.

Moving on, the program calls for a day at the Pyramids and related Museums. Here the geologist with a bloodthirsty yen may get his inspiration. On these Pyramids formerly stood the *teocallis* (gods house) of the Aztecs, containing the sacrificial blocks upon which it is reported the annual slaughter of some 50 to 70,000 humans took place. And this quite recently, geologically speaking or until 1521 when Cortes and his cohorts stopped all that by killing both the sacrificers and sacrificees.

Now comes the jai-lai game, guaranteed by the program to combine all the "thrills of tennis, acrobatics and horse-racing." That is covering lots of territory.

The Mexican government's second reenactment of Aztec Historical Pageant at Teotihuacan Pyramids has been postponed as a favor to the geologists until October 20. This event will bring thousands to Mexico. The postponement of this pageant until Sunday caused last minute program rearrangements so that Saturday would be open.

A trip to Taxco, cradle of American mining industry, about 80 miles south of Mexico City, was advanced to Friday. The return trip from Taxco is through beautiful Cuernavaca. Every American should remember the late U. S. Ambassador Dwight Morrow lived here and entertained Colonel Lindbergh here on his Mexican flight.

One last super-thriller is offered in a tri-motored airplane trip over old "Popo", the affectionate name for Popocatepetl (Smoking Mountain), a great volcano cone standing nearly 18,000 feet high. "Popo" may have been smoking for the Aztecs but the authors of the British Encyclopaedia say he has quit the habit. Anyway here is opportunity to see for oneself.

There is no mention of a bull fight and I hear it is because it is the wrong season. There will not be any. Probably the bulls are just calves this time of the year, or like trying to see a baseball game a couple of weeks after the World Series.

If the foregoing is not enough the program suggests there are hundreds of other things to see and places to go in and around the Capitol. It let's it go at that. But let me suggest a tip. Two or three years ago a couple of self styled "bored business men", took a leisurely trip to Mexico and published last year a book entitled "Time Out for Adventure, or Let's go to Mexico." The author is Leonidas W. Ramsey. What the foregoing geological program fails to list, this author and his friends give space to elucidate. If you're planning the trip read this book, if not read it anyway and see what.

The Pan-American highway is now open for all-weather travel. The bridge over the Montezuma River is now open, and the road is either paved or graveled throughout, with all mountain roads full contract width of eight meters plus dump. There still remains two ferries to cross but October is a dry month and there should be no delay.

The highway leads from "tierra caliente" or hot lands on the coast, through the "tierra templada", or temperate lands to 5500 feet, to the "tierra fria", or cool lands of the central valley plateau over 7000 feet elevation. Once, on the plateau it hurries on to the capitol city.

Both native Mexican and American

The highway to Mexico City is now an all-weather road, and passes through some exceptionally beautiful country, as shown in the picture.

TECHNICAL PROGRAM

WEDNESDAY, OCTOBER 16

MORNING

8:30 A.M.—Registration at Hotel Regis.

10:00 A.M.—Technical session opens in Palace of Fine Arts, presided over by Sr. Ing. Manuel Santillan and Hon. Josephus Daniels, Ambassador of the United States to Mexico.

1. Address of welcome to geologists by Hon. Sr. D. Cosme Hinojosa, Mayor of Mexico City, Federal District, interpreted by Ing. Ezequiel Ordonez.

2. Fundamental Principles of the Geology of Mexico, by Ing. Jose G. Aguilera.

3. The Principal Physiographic Provinces of Mexico, by Ing. Ezequiel Ordonez.

THURSDAY, OCTOBER 17

MORNING

10:00 A.M.—Technical session in Palace of Fine Arts presided over by the Rector of the National University of Mexico, Dr. Fernando Carranza.

1. Aerial Geology of Part of the Rio Grande border province of Northwestern Mexico, by William G. Kane.

2. Paleogeography of Parts of the Border Province of Mexico adjacent to West Texas, by Dr. Lewis B. Kellum.

3. The Tampico Oil Fields, by James L. Tatum.

4. The Possibilities of production from formations below the Cretaceous, particularly the Surassic, by Tom Callahan.

5. History of Micropaleontology in Mexico by Barker.

FRIDAY, OCTOBER 18

NOON

1:00 P.M.—Address by A. I. Levorsen, President of American Association of Petroleum Geologists, introduced by Mr. Joe Dawson, President of the San Antonio Geological Society.

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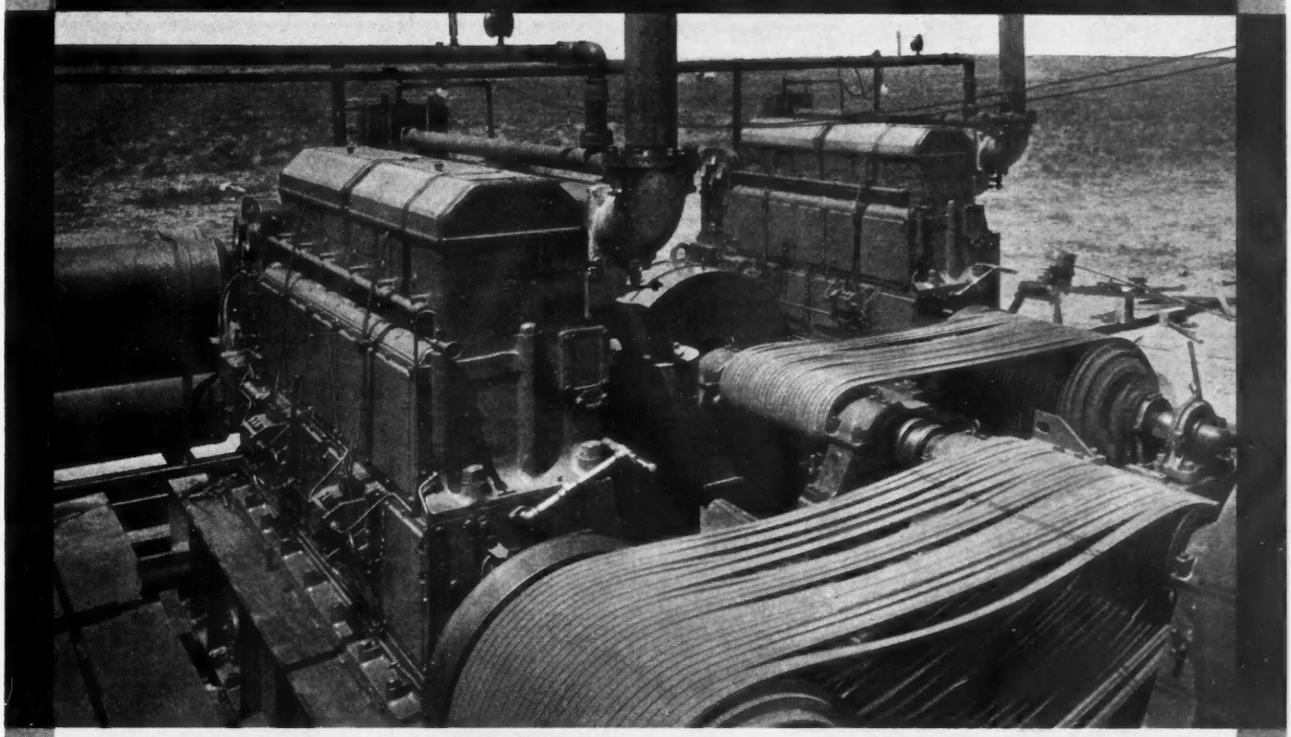

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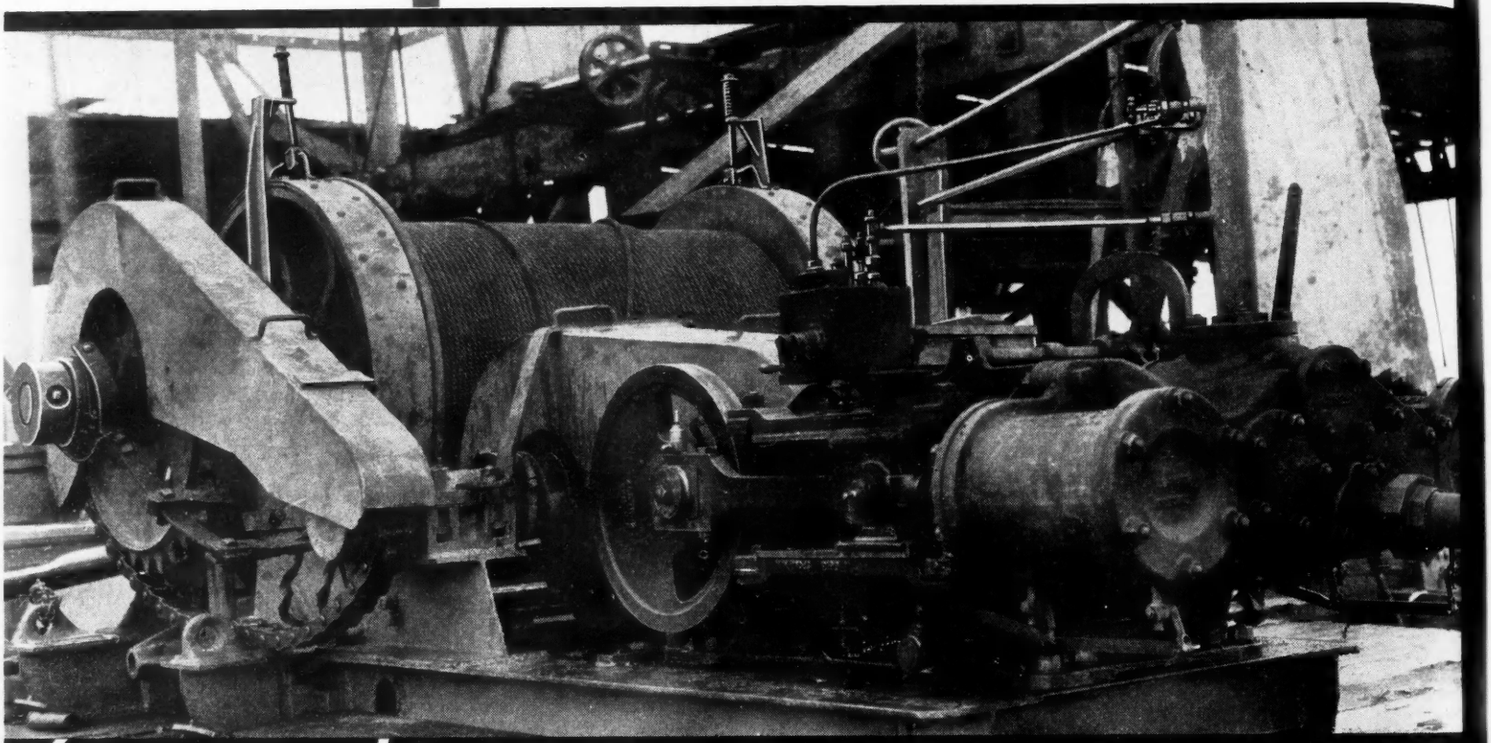

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geologists and companies are actively cooperating with the San Antonio Geological Society for the success of the venture. Several comprehensive papers are listed covering a wide range of Mexican geology. Weather permitting, the forecast of the attendance bodes well for the venture. Mexican officials are offering every facility.

The San Antonio Geological Society's annual fall field trips and conventions have become an institution, especially to Texas and coastal geologists. Their programs have been arranged with uncanny forethought and carried out with faultless application. In the present case, although they have engaged and are receiving the full cooperation of the American Association of Petroleum Geologists, it was their idea and they deserve the fullest appreciation of their fellow geologists for their efforts in behalf of this program.

HOLDS CONFERENCE

Houston.—The California Company held a conference in Houston last week with several district representatives attending. Those present included: Fred S. Wright, district geologist, Midland, Texas; Robert S. Brennand, district scout and land man, Colorado, Texas; L. W. Orynski, chief geologist, Dallas, Texas; J. M. Carlton, geologist and land man, San Antonio, Texas; Hugh T. Richard, geologist, San Antonio, Texas; G. Lund, geologist, Houston, Texas; H. J. Harwley, assistant manager; Porter Savage, representative and G. C. Gester, chief geologist for Standard Oil Company of California, San Francisco, California.

Fix Gas Rate

TEXAS COMMISSION ORDERS COMPANY TO CUT PRICE

Austin.—The Texas Railroad Commission has issued an order providing that gas sold by Humble Oil & Refining Company at the well-head to M. & M. Pipe Line Company shall be priced at five cents, a reduction of 7½ cents.

This is the first order of this sort issued in Texas, and contained other interesting features. It is the first order entered by the commission fixing a price to be charged for rural consumers, the people living on farms who get their gas direct from the pipe line, and makes a reduction of 20 cents per thousand in this rural rate.

It orders the distributing companies, Southern Union Gas Company and Texas Cities Gas Company, to pass on to the consumers the difference between the gate rate fixed by the order and the rate heretofore paid for gas at the city gate.

The gate rate fixed was 16 cents. This is a cut of 19 cents per thousand to domestic consumers in Brenham, and 14 cents cut in other towns served by Southern Union Gas Company.

In a prepared statement issued with the order, the commission pointed out that:

"Humble Oil & Refining Company challenged the jurisdiction of the Railroad Commission to fix a reasonable price of gas to be charged by them at their stripping plant or the dry gas sand well, claiming that they were not a utility and were not subject to the orders of the Commission.

"The commission found that the source of their gas, both the wells and the stripping plant, were in existence before the construction of M. & M. pipe line, and that Humble Oil & Refining Company had made a contract to supply M. & M. with gas, in which it was provided that the M. & M. would secure enough customers to take a certain minimum amount of gas which they were obligated to do.

"The commission could not recognize the contention made by the Humble that to have done so would have created an intolerable situation and would have placed the users of gas at the complete mercy of the owners and producers of the gas, and the commission did not believe that this was the intent of the legislature when it enacted the statute that provided that the Railroad Commission should regulate all matters pertaining to the production, transportation, and sale of natural gas for domestic purposes in the State."

THE
ENGINE
IN
THIS PICTURE

The Double Cylinder, Throttle Reversing, all steel Engine in this picture is manufactured by American Hoist and Derrick Company, St. Paul, Minnesota. It is also built in an enclosed type for driving rotaries. Ask us for full particulars.

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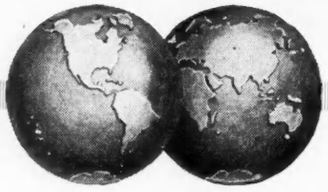

Edited by
WM. V. GROSS, Associate Editor

ETHIOPIA GRANT

Farish explains attitude on cancelled concession

SUGGESTION that the contract between the Ethiopian government and the African Exploration and Development Company, granting to the American controlled organization right to explore for and develop oil and other minerals on a 150,000-square mile concession in Ethiopia, would be cancelled if such action appeared advisable in the interests of international peace came first from the Standard Vacuum Oil Company officials, and not from the department of state, according to a statement recently issued employes of Standard Oil Company of New Jersey by W. S. Farish, chairman of the board.

Mr. Farish's statement follows:

"Many people have a natural interest in the facts about the oil concession in Ethiopia, in so far as they concern Standard Oil Company (New Jersey) in view of conflicting newspaper reports and a bombardment of questions.

"The concession was granted to the African Exploration and Development Corporation, 100 percent subsidiary of the Standard Vacuum Oil Company, which is jointly owned by Socony-Vacuum Corporation and Standard Oil Company (New Jersey).

"The Standard Vacuum and its predecessors have operated in Ethiopia for more than 20 years. It is a natural part of the company's business to seek new production and to negotiate oil concessions in areas in which they operate, and the possibility of new fields exists.

"Some months ago Francis W. Rickett of London approached the Standard Vacuum on the possibility of obtaining a petroleum exploration and development agreement in Ethiopia, a matter which had been considered years before. Mr. Rickett was authorized to negotiate the concession as the company's agent.

"No payment of money or loan to Ethiopia was involved in the agreement. Like most concessions of its kind, it provided for a geological survey, and if the presence of oil in commercial quantities was indicated the company was to drill within five years. A royalty was provided on any petroleum that might be produced.

"On August 30 Mr. Rickett unexpectedly announced from Addis Ababa that the concession had been granted. Officers of Standard Oil Company (New Jersey), when called at their homes, stated what was actually the case, that they had no knowledge of the matter. The delay occasioned by the three-day holiday tended to deepen the mystery.

'The day after Labor Day, confirmation that the concession had been granted having been obtained, the chairman and a vice president of Standard Vacuum went to Washington on their own initiative. They called on the state department and after laying the facts before the secretary, said that if the concession was in any way an embarrassment to the United States government the company would voluntarily terminate it.

"The suggestion that the contract would be cancelled if such action appeared advisable in the interests of international peace came first from the Standard Vacuum officials. The state department welcomed it. Regardless of the fundamental principle of international law which holds a government responsible for the protection of the life and property of its citizens abroad, no American corporation wishing to do all in its power to preserve international peace would wish to assert its legal rights in the face of the embarrassing problems which might result thereby. The Standard Vacuum, therefore, voluntarily gave notice to terminate its concession."

TO BURN COAL GAS

Italian decree issued to motor bus concerns

To reduce imports of gasoline and thereby protect the lire, the Italian cabinet has decreed that by December 31, 1937, some 10,000 public and private motorbusses in Italy shall be changed from gasoline burners to "gasogene" burners, according to a letter received by THE OIL WEEKLY from Harry Pennington, prominent American producer and petroleum engineer now in Italy.

Gasogene is produced from charcoal and is what has been referred to in the United States as "producer gas."

The claim is made that five lire (12.25 lire equal one dollar U. S. currency at the present rate of exchange) will purchase enough wood to produce enough charcoal to run a motor bus 100 kilometers, as compared with 40 or 50 lire for gasoline, and that more power will be developed with less odor.

Gasoline in Rome recently was selling for £2.90 (2 lire and 90 centimes) per litre, which approximates 80 cents per U. S. gallon. Some of this is tax.

Pennington, whose knowledge of internal combustion engines demands respect for his opinion, declares: "Of course, automobile type engines will operate on producer gas (gasogene), although for a given displacement and speed of an engine of this type, producer gas, with its lower heat content, will develop less power than when gasoline is used through a carburetor.

"But if Il Duce says use charcoal burners, well, then Guiseppe and Andromio and Salvatore will use charcoal burners", Pennington writes.

CHINA

China's future as an oil producing nation will be the subject matter treated in an article prepared for publication in an early issue of THE OIL WEEKLY by Dr. C. Y. Hsieh, director of the National Geological Survey of China.

A letter received October 2 from Dr. Hsieh states: "I am glad that I have finished the article which will be sent to you within the next week. It contains several photographs illustrating the drilling work carried on by the Resources Investigation Committee of Nanking, as well as a map showing the distribution of oil fields and oil shales in China."

YIELD DECREASES

Netherlands Indies shows lower production

NETHERLANDS Indies will show a decrease in oil production during 1935 if figures for the first six months of the year may be used as a measuring stick. Netherlands Indies, comprised of fields of North and East Sumatra, South Sumatra (Palembang) Java, East Borneo and Tarakan, and Ceram, produced 2,974,989.8 metric tons of crude oil during the first six months of 1935 as against 6,054,721.7 metric tons during the 12 months of 1934.

These figures, prepared for THE OIL WEEKLY by Hoofdkantoor Van Den Mijnbouw under direction of the head of the Department of Mines of Java, indicate four fields which produced during 1934, have not produced during the first six months of 1935. They are Arahan, Mambang and Mangoendjaja fields in South

Sumatra, and Petiken field in Java, all which, fortunately, were relatively small producers.

However, the larger fields in the Netherlands Indies may be said to have shown a general inclination to increase production. Rantau field in Sumatra is a notable exception, being credited with 343,429.6 metric tons in the first six months of this year as against 702,129.6 metric tons during 1934. Poeloe Pandjang in Sumatra is another exception, with only 70,952.8 metric tons recovered during the first half of 1935, as against the year's output of 206,978.3 metric tons in 1934.

The accompanying table, which is published through the courtesy of the head of the department of mines in Java, presents cumulative totals of oil production in each field in Netherlands Indies for the whole of 1934 and compares them with cumulative totals for the first six months of 1935. It is believed these figures have not been published in the English language or in Continental Europe prior to this time.

RESUME DRILLING

Subsiding flood waters in northeastern Mexico following heavy recent rains permitted resumption of drilling on wildcat wells last week in the flooded area, according to information at McAllen, Texas.

Crew of Mier Oil Company's Mier Coal Company 1, wildcat located in share 72, community of Mier, 62 miles southwest of here, has been returned to location following several days enforced idleness on account of the Alamo River flood.

A.P.I. CARAVAN

New York.—Arrangements have been made whereby oil men living in cities between New York and California may board the special train known as the "Oil Men's Caravan" and join their friends enroute to the American Petroleum Institute's 16th annual meeting at Los Angeles, California, November 11 to 14, it has been announced by Richard A. Wotowitch, of Warner-Quinlan Company, 2 Park Avenue, New York.

Mr. Wotowitch, the "Caravan manager," has made plans whereby oil men boarding the train will be fed, entertained, and transported to their destination, and taken on sight-seeing side trips enroute, without further thought on their part.

Assisting Mr. Wotowitch with the arrangements are C. S. Smith, of National Refining Company, Cleveland, Ohio; Bud Patterson, of J. M. Patterson Company, Philadelphia, Pennsylvania, and J. E. Moorhead, of Pennsylvania Grade Crude Oil Association, Oil City, Pennsylvania.

Accommodations include the latest de luxe railroad equipment, cafe car, news bulletin boards, radio, motion pictures, music, and vaudeville every evening.

The "Caravan" leaves the Pennsylvania Station, New York, at 3:40 p. m. Tuesday, November 5, with connections

Production in Netherlands Indies

Name of Company*	Name of the Field	Oil Production 1934 (in metric tons)	Oil Production First Six Months of 1935 (in metric tons)
NORTH AND EAST SUMATRA			
K.N.M. tot E.v.P. in N.I.	Aroebaai	60,304.7	24,649.0
De B.P.M.	Boeloe Telang	1,282.0	588.4
De B.P.M.	Djoelo Rajeu	2,874.2	1,185.3
P.P.M.	Perlak	77,395.5	34,236.5
N.I.A.M.	Poeloe Pandjang	206,978.3	70,952.8
De B.P.M.	Rantau	702,129.6	343,429.6
K.N.M. tot E.v.P. in N.I.	Telaga Said	2,272.0	1,154.5
SOUTH SUMATRA (Palembang)			
E.M. "N."	Arahan	23.9	.....
K.N.M. tot E.v.P. in N.I.	Babat I	17,640.4	6,718.6
N.K.P.M.	Benakat	133,038.7	106,709.4
De B.P.M.	Darat	.....	1,119.8
N.I.A.M.	Djambi	309,169.4	161,101.7
De B.P.M.	Kloeang	20,303.8	11,187.1
De B.P.M.	Limau	18,534.3	14,637.8
N.K.P.M.	Mambang	35.5	.....
De B.P.M.	Mangoendjaja	169.1	.....
De B.P.M.	Meraksa	.....	.....
K.N.M. tot E.v.P. in N.I.	Moeara Enim	42,728.1	13,993.9
De B.P.M.	Noord-Kloeang	423,225.9	208,264.7
N.K.P.M.	Pendopo	868,201.2	482,661.2
De B.P.M.	Ramok	1,343.9	494.0
De B.P.M.	Soeban Boeroeng	21,425.6	9,322.3
K.N.M. tot E.v.P. in N.I.	Soeban Djerigi	151,756.1	52,243.0
K.N.M. tot E.v.P. in N.I.	Sumpal	3,544.5	1,663.9
N.K.P.	Talang Akar	412,158.4	220,839.3
De B.P.M.	Tandjong Loentar	50,731.4	16,580.5
De B.P.M.	Tandjong Loentar Oost	1,944.1	401.2
De B.P.M.	West Limau	51,240.1	17,407.6
JAVA			
De B.P.M.	De 12 desa's	14,586.3	6,260.4
De B.P.M.	Djabakota	20,138.4	9,064.2
De B.P.M.	Djepon	192,324.0	63,717.9
De B.P.M.	Lidah Koelon	6,197.7	2,580.7
N.K.P.M.	Loesi	8,030.6	5,622.5
De B.P.M.	Ledok	50,305.4	23,882.8
De B.P.M.	Made	16,965.3	7,260.7
De B.P.M.	Metatoe	121.5	123.6
N.K.P.M.	Petak	2,219.7	1,118.3
O.P.C.	Petiken	38.7	.....
M.M. S.K.	Soember Koentjoong	.....	.....
De B.P.M.	Tinawoen	198,739.4	103,003.7
N.K.P.M.	Tremboel	632.4	245.9
J.O.W.	Watoedakon	.....	.....
EAST BORNEO AND TARAKAN			
N.I.A.M.	Boenjoe	9,126.4	4,111.0
De B.P.M.	Louise	561,377.2	252,953.1
De B.P.M.	Mathilde	2,469.8	1,248.0
K.N.M. tot E.v.P. in N.I.	Moeara/Anggana	228,224.9	130,883.5
K.N.M. tot E.v.P. in N.I.	Oeloe Karang Moemoes	39.4	26.5
K.N.M. tot E.v.P. in N.I.	Pelarang	.....	.....
De B.P.M.	Sambodja	303,542.0	132,369.5
De B.P.M.	Semberah	7,405.0	1,489.8
K.N.M. tot E.v.P. in N.I.	Tarakan	812,049.2	407,777.9
CERAM			
Boela Petroleum Maatschappy	Boela	35,635.3	17,225.2
De B.P.M.	Lemoen	1,102.4	2,482.5
Netherlands Indies — Total oil production		6,054,721.7	2,974,989.8
Netherlands Indies — Total gas production		1,084,111.9	543,603.5

*K.N.M. tot E.v.P. in N.I.—"Koninklijke Nederlandsche Maatschappij tot Exploitatie van Petroleum bronnen in Nederlandsch-Indie."
*De B.P.M.—"De Bataafsche Petroleum Maatschappij."
*P.P.M.—"Perlak Petroleum Maatschappij."
*N.I.A.M.—"Nederlandsch-Indische Aardolie Maatschappij."
*E.M.N.—Exploratie Maatschappij "Nederland."
*N.K.P.M.—"Nederlandsche Koloniale Petroleum Maatschappij."
O.P.C.—"Oriental Petroleum Company."
*M.M. S.K.—Mijnbouw Maatschappij "Soember Koentjoong."
*J.O.W.—"Jodiumonderneming Watoedakon."

POWER BY WIRE

for any

OIL COUNTRY JOB

MANY a dry hole has been drilled through pay sand. In the oil business it pays to take few things for granted. And so we want to remind you as often as possible that you can do any power job, light or heavy, steady or intermittent, with purchased Electric Power—often with less expense and always with certain other advantages. Quick, clean, dependable power is waiting and ready in the hi-lines which criss-cross the oil country. It's just good business to find out about "power by wire," regardless of the job to be done.

PETROLEUM ELECTRIC POWER CLUB

leaving Washington, D. C., at 4:20 p. m., and Baltimore, Maryland, at 5:10 p. m. via Pennsylvania Railroad. It leaves Pittsburgh, Pennsylvania, at 12:55 a. m., Wednesday, November 6, and St. Louis, Mo., at 2:00 p. m. the same day via Missouri Pacific after a one-hour stop. Parties from Chicago will be taken aboard at the next stop, Kansas City.

The "Caravan" reaches Pueblo, Colorado, at 10:30 a. m., Thursday, November 7, and here opportunity will be given for inspection of the Grand Canyon. Tennessee Pass is reached, via Denver & Rio Grande Western, at 4:54 p. m. Later a stop is made at Glenwood Springs.

Arriving at Salt Lake City, Utah, at 7:15 a. m., Friday, November 8, the party will detrain for the day. A motor ride to Great Salt Lake, state capitol, Mormon Tabernacle, and other features have been planned. The party leaves Salt Lake City at 9:30 p. m. via Union Pacific and reaches Las Vegas, Nevada, at 12:05 p. m. Here a stop will be made for inspection of Boulder Dam. The "Caravan" will leave Las Vegas late in the evening, and is due at Los Angeles at 8:30 a. m., Saturday, November 9.

CONVENTION TRAIN

Direct Shreveport, Dallas and Ft. Worth Service

Dallas.—Texas and Pacific Railway will provide direct connections at El Paso with the Southern Pacific Railway for those going to the American Petroleum Institute meeting in Los Angeles, November 11 to 14. Men from the East may take the Missouri Pacific at St. Louis, Mo., catching the Texas and Pacific at Texarkana. Those from New Orleans and vicinity may take the Texas and Pacific to Shreveport, thence the same route to El Paso. The Texas and Pacific from Texarkana and Shreveport passes through Longview, Dallas, Fort Worth and other oil centers enroute to El Paso.

The newest type air-conditioned sleeping cars through to Los Angeles will be used. The De Luxe air-conditioned lounge club cars on the train have soda fountain, valet service, shower bath, radio, etc.

Special low round-trip fares for A. P. I. delegates are available from all points to Los Angeles.

PLAN RODESSA LINE

Shreveport.—Rodessa Oil & Refining Company is reported contemplating a pipe line from Cedar Grove to the new Rodessa field, a distance of about 40 miles. The company recently leased with an option to buy the refinery of Crystal Oil & Refining Company at Cedar Grove, a Shreveport suburb. Martin J. Grogran, president, has announced that operation of a newly installed topping unit will commence the coming week at full capacity of 3000 barrels daily. Additional facilities are expected to be added until it can process 5000 barrels per day.

SEEK NEW ORDER

Long Lake operators seek larger acreage factor

Austin.—A larger acreage allowance for gas wells in the Long Lage field has been requested by Tide Water Oil Company.

At a hearing before the Texas Railroad Commission on October 2 Tide Water Oil Company representatives presented evidence to the commission to show that wells in this field would drain a large area. The present method of allocation includes an 80-acre factor.

George Nye, petroleum engineer for Tide Water Oil Company, told the Railroad Commission that it was possible in his opinion for one well to drain all the gas from this field. He said that the sand, which is 50 feet thick, is exceedingly permeable, and is 22 percent porous.

Wells in the field cost an average of $40.585 to drill and complete. An additional $6,452 is spent on equipment required to connect them to gas lines. Some reduction in this initial cost is anticipated on wells completed on producing leases as some of the equipment installed for the initial well can be utilized for the others which may be drilled later.

Because of the enormous costs for wells drilled to 5300 feet, Nye believes that fewer wells should be drilled to recover the gas. He pointed out to the commission that a large amount of gas per well would have to be produced to amortize this investment.

Lone Star Gas Company is now buying 5,000,000 feet of gas daily from the Long Lake field, and a total of 4,500,000 feet has been produced.

While Nye believes that one well will effectively drain an area much larger than 640 acres he recommended that this acreage be used as a factor because of the necessity of recognizing lease divisions which exist in the field.

TRAINING COURSES

A. P. I. plans expansion of vocational classes

New York.—Extension into Kansas, Louisiana, California and Arkansas of evening vocational training courses for workers in the petroleum industry is being considered by the American Petroleum Institute's Topical Committee on Vocational Training. Some 5000 workers participated in vocational studies sponsored jointly by the state governments of Texas and Oklahoma, the federal government, and the petroleum industry in the fiscal year ended June 30 last, and the committee has been informed that demand for extension and expansion of the work is growing.

A new course on driving motor vehicles, designed to aid in preventing traffic accidents, is to be added to Texas courses conducted by Ray L. Martin, of the University of Texas, Austin, this year. A new course on natural reservoir conditions is being prepared for final approval by W. Fred Heisler, of Oklahoma A. & M. College, Stillwater. A conference of teachers engaged in conducting classes for petroleum industry workers is scheduled for Tulsa, at an early date.

Consideration is being given also to the possibility of establishing a course for foremen, with particular emphasis placed upon the problems of the industry. Mr. Martin is chairman of the committee appointed to make tentative plans for the course, with G. O. Lockwood of The Empire Companies, Bartlesville, Oklahoma, and J. L. Risinger, Magnolia Petroleum Company, Dallas, Texas, as members.

Arrangements have been made whereby workers living at points distant from communities where vocational classes are held may take the courses by correspondence. The state departments of Texas and Oklahoma are making text books used in the courses available to those forwarding requests from other states, and from foreign countries, including Hawaii, Venezuela, Canada and Brazil.

The courses are designed to give workers in the petroleum industry an opportunity to train themselves to meet increasing demands of present jobs.

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Built of high quality forging steel and heat-treated under automatic control, these unions have high tensile strength and how! High yield point too and high Brinnell Number, but at no sacrifice of ductility or reduction of area!

These properties are important, but most important is the ability of a Flange Union to resist the Cupping action that occurs when the pressure gets high. These unions grip the threads of the pipe to which they are connected and stripping is reduced to the minimum. They are tough and stiff without being brittle. They get the job done.

The Ring Joint Gaskets are forged endless of pure Armco Ingot Iron. Free of hard spots . . . absolutely uniform . . . sufficiently soft and yielding to form a perfect seal . . . rust resisting . . . and withstand severe corrosive conditions.

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Kerotest Flange Unions are Available in All Line Pipe and Casing Sizes

KEROTEST

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Pittsburgh, Pa., U. S. A.

Important Find

OKLAHOMA CITY EXTENSION WELL IS FLOWING

WEEKLY STAFF REPORT

Oklahoma City.—The Oklahoma City pool received an important extension during the week when British-American Oil Producing Company's M. Green 1, SE SW SW SW 23-12n-3w, approximately 2400 feet from the State Capitol Building and 1100 feet from the governor's mansion. Absolute secrecy had been maintained in regard to drilling depths, markers, etc., until this week when it was revealed that top of the Wilcox sand was encountered at 6328 feet. Cored to 6365 feet, the total depth, it had 2000 feet of oil in the hole. Operators swabbed the well in early in the week and it started flowing at the rate of 75 barrels per hour. During the first 14 hours the gauge was 1765 barrels. The gauge during the thirteenth hour was 246 barrels and the last hour 238 barrels. Gravity of the oil is approximately 39 degrees. Since the well is making a considerable amount of sand and not completely cleaned itself it probably will do better than 250 barrels per hour at the present depth.

Finding of production of this size in this position brings a number of interesting problems among which is the structural interpretation. Surface work done by one geologist several years ago shows a high centering at about the center of the west line of Section 26-12n-3w. This high is shown to be a north extension of the main Oklahoma City structure with a saddle condition between the two areas. Some geologists also are of the opinion that a faulted condition may have separated the north and south portions of the structure.

Nearest production is in the old Russell Petroleum Company's Highley 1, SW SW NW SE 23-12n-3w, one half-mile to the northeast. This well was completed in November, 1933, and has yielded over 130,000 barrels of high gravity oil to date although its initial production was only about 600 barrels per day. Production is reported to have been coming from Wilcox sand topped at 6649 feet and drilled to 6659 feet, the total depth. Accepting this as being a correct correlation of the producing horizon, the new British-American well is approximately 300 feet higher than the Russell well. Another problem which is attracting attention is the report that Phillips Petroleum Company's Troy 1, SE SW SW NE 26-12n-3w, five eighths of a mile to the southeast and also in an Oklahoma City residential section, is running low and thought to be on the east and downthrow side of a fault. Locations have been staked for tests in Blocks 12 and 17, Fairfax Addition in the vicinity of the new well.

J. E. Mabee et al's Duellbert 1, NW SW SE NE 20-13n-3w, about two miles north of the town of Britton in northwestern Oklahoma County, has been plugged back to 6685 feet where it was bailed dry and shut in. When reopened it made a five-minute head of about 10 barrels and was shut in again. It probably will be treated with acid. This test was drilled to 6846 feet, topping Wilcox sand at 6825 feet. Electric logging at the total depth did not indicate anything of commercial importance.

In the Seward area of southwestern Logan County, Sinclair Prairie Oil Company's Glen 1, NE NE SE 27-15n-3w, found first Wilcox sand at 6249 feet, was drilled to 6252 feet and made 20 barrels of water and one barrel of oil an hour. The upper sand has been mudded off to test the lower sand. The area north of the pool received a setback when Anderson-Prichard, Buttram et al's Cavalt 1, NW SW SE 22-16n-3w, drilled second Wilcox sand from 6308 to 6330 feet, the total depth, recovered white salty sand showing no oil and was plugged and abandoned.

GOOD FITTS WELL

West area well large; wildcats are watched

Ada, Okla.—Skelly Oil Company gave the western portion of the Fitts pool an important completion during the week when its Smith 1, NE NE NE 35-2n-6e, flowed 1376 barrels in one hour to make it among the larger completions in the pool. Production the first 15 minutes was 315 barrels; the second 15 minutes, 283 barrels; the third 15 minutes, 377 barrels; and the fourth 15 minutes, 401 barrels. It produced 236 barrels the first hour through tubing and 178 barrels per hour the second and third hours. Top of the Bromide section was encountered at 4210 feet, the first sand at 4305 feet and McLish member at 4436 feet. It is a south offset to W. A. Delaney et al's Smith 2, SE SE SE 26-2n-6e, which had the McLish at 4336 feet, was drilled to 4360 feet and made 603 barrels in 23 minutes. Tubing was set at 4210 feet.

In the southern portion of the pool Fleetborn Oil Corporation's Smith 1, NW SE NE 31-2n-7e, made one head of about 45 barrels after being treated with 4000 gallons of acid. It apparently will make a very small well in the Bromide section in which it is now bottomed and probably will be drilled to lower McLish or Wilcox sand.

Watch Centrahoma Test

Carter Oil Company et al's Thompson 1, C SL NE NW 34-2n-9e, near the town of Centrahoma in western Coal County, was being generally accorded good chances for finding production of importance. Top of the Viola lime was encountered at 5970 feet, approximately 730 feet higher than in Moore et al's Deaner 1, NW NE SE 27-2n-8e, a dry hole in the Wilcox sand at 7336 feet about six miles to the west. The Centrahoma "high," upon which the test is located, has been known for many years as a predominant structural feature. As detailed the structure is shown to be a long anticline with two superimposed "highs." Ramsey Petroleum Corporation blocked the structure several years ago, concentrating its acreage around the two "highs." The block, at the time the well was spudded, contained approximately 12,000 acres. Carter Oil Company took a half interest under an agreement to drill a 7000-foot test in Section 34-2n-9e and to drill another on the acreage to the northwest or to surrender its interest in that portion of the block. Stanolind Oil & Gas Company and Amerada Petroleum Corporation own a quarter interest; Ramsey Petroleum Corporation, an eighth interest; and J. E. Mabee, an eighth. The block includes 2040 acres in 1n-9e, 8355 acres in 2n-9e and 1880 acres in 2n-8e.

Location has been announced for Southern Oil Corporation's No. 1, SW SW SW 6-1s-8e, a wildcat operation 4½ miles east of the town of Clarita in southwestern Coal County.

Jesse Gas Well

Continental Oil Company's McCarty 1, C SW NW 12-1n-7e, near the town of Jesse and 5½ miles southeast of the Fitts pool, topped second Bromide sand at 4312 feet and was drilling below 4350 feet, making approximately 5,500,000 cubic feet of dry gas. Top of the Bromide section was found at 4155 feet, 250 feet higher than in Sledge et al's well nearer the town of Jesse. At 4155 feet it was making an estimated 1,250,000 cubic feet. At 4330 feet oil stained sand was recovered after a gas increase at 4321 to 4328 feet.

This area is known to be complexly faulted and geological interpretation is exceedingly hazardous. Paramout Petroleum Company's Graham 1, SW SE SW 13-1n-7e, 1½ miles to the south and slightly east, had the first Bromide sand at 3288 feet and the second sand at 3298 feet after topping the Bromide section at 3115 feet. Both were dry and the test was abandoned after plugging back to test upper sands although correlations show it to have been considerably higher than the McCarty test. Sunray Oil Company subsequently completed as a dry hole its Curtis 1, SW SE NW 13-1n-7e, four locations north of Graham 1. It topped the Bromide section at 3795 feet, had the first sand at 3897 feet and the second sand at 3968 feet. It was abandoned at 4471 feet.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Barnett's Lynn 2, se nw ne 31-1s-2w, (pb 1650)	30	2320
Samedan Oil Co.'s Higgins "C" 1, se sw sw 6-2s-2w	*	2416
Coline Oil Corp.'s Higgins "D" 10, ne ne ne 18-2s-2w	¶10-68	2514
CLEVELAND COUNTY—		
Arab Pet Co.'s McKiddy 1, se se nw 16-7n-1e	*	6890
CREEK COUNTY—		
Abraham's Dixon 3, nw sw nw 19-17n-10e (reported dr, error)	lcn.	abd.
Helvic & Stout's Land 6, nw sw sw 1-18n-11e	5	1438
J. E. Crosbie Inc's Lacey 4, nw ne nw 22-18n-8e	175	2651
L. B. Jackson's Bear 4, se nw se 35-18n-8e (pb 2573)	15	2732
Big Four Pet Co.'s Lapham 1-A, sw ne sw 35-19n-8e	*	2558
GRANT COUNTY—		
Blankenship et al's Clark 1, ne nw nw 17-29n-4w	200	4811
HUGHES COUNTY—		
Phillips Pet Co.'s Demma 1, se nw nw 8-6n-8e	205	2772
Manahan Oil Co.'s Dixon "B" 3, ne se nw 12-9n-8e	¶2½-264	1779
JACKSON COUNTY—		
Palo Duro Oil Co.'s Ealum 1, se se sw 16-2n-21w	*	2505
LINCOLN COUNTY—		
The Texas Co.'s Niccum 1, se sw nw 28-14n-5e (pb 3570)	*	4863
Stanolind & Amerada's Dawson 1, nw nw nw 4-14n-3e	619	5106
LOGAN COUNTY—		
Anderson & Kerr et al's Goodrum 1, ne ne ne 15-15n-3w	*	6275
Sinclair Prairie Oil Co. et al's Foree 1, ne ne ne 1-16n-1w	95	5283
NOBLE COUNTY—		
Shell Community's Moelling 3, sw se se 17-20n-2w	¶13¼-2026	5238
Stanolind-Amerada's Kolb 3, se se nw 33-20n-2w	400	5133
Phillips Pet Co.'s O'Neil 1-A, se se se 16-23n-2w	97	4295
OKLAHOMA COUNTY—		
Sunray Oil Co et al's County Fair 2, nw ne nw 1-11n-3w	315	6310
Larkin & Warr's Warsaski 1, se se ne 34-12n-3w	¶45-462	6421
Gulf Pet Co.'s Lindsay 2, se sw nw 6-13n-3w	lcn.	abd.
Slick-Urschel's Meeker 1, nw nw nw 29-13n-3w	17,112	6757
OKMULGEE COUNTY—		
Pine's Fee No. 5 1, sw ne ne 11-14n-12e	*	2722
Wise's Roberts 1-A, se nw sw 12-14n-12e	*	2756
Bassett's Duff 1, cnl ne sw 14-14n-12e	¶1½	1885
Hazlett's Dunbar 5, csw sw 30-14n-13e	40	1966
Francis' Adams 2-A, nw ne nw 33-15n-14e	15	1680
OSAGE COUNTY—		
Continental Oil Co.'s 9, sw ne se 21-24n-7e	167	2700
Sinclair Prairie Oil Co.'s 5, se nw se 9-25n-6e	¶3-3012	2835
Barnsdall Oil Co.'s 10, sw sw nw 36-25n-11e	61	1707
PAWNEE COUNTY—		
Stanley Brewer's Cotton 10, se ne sw 6-20n-8e	40	2692
PONTOTOC COUNTY—		
Clark & Cowden's Summers 1, ne nw sw 17-2n-7e	75	1708
Moore et al's Schauers 5, nw sw nw 29-2n-7e	327	3714
Mary F. Oil Co. & Delaney's Crumley 2, se se nw 22-5n-8e	*	922
Thomas' Gilmore 1-A, cwl nw nw 28-5n-8e (pb 819)	15	872
POTTAWATOMIE COUNTY—		
Huckleberry's Gray 2, nw se sw 25-6n-4e (pb 3662)	*	3872
SEMINOLE COUNTY—		
Scott & Smith's Abb 1, se nw se 4-6n-6e	*	3979
Jobe & Phillips' Baker 1, se sw nw 8-6n-7e	*	4172
Vandeventer's Bender 1-A, ne ne sw 3-8n-8e	32	3250
Buell's Taylor 1, sw ne sw 27-8n-8e	*	4285
Carter Oil Co.'s Keokuk 4, cs¼ sw ne 2-10n-6e	691	4147
STEPHENS COUNTY—		
T. H. McCasland's Dare 2, sw sw se 2-2s-8w	*	2225
Bridwell Oil Co.'s Montgomery 2, nw sw se 11-2s-8w	¶5	2028
TULSA COUNTY—		
Somerset Oil Co.'s Murray 3-A, cwl nw nw 36-17n-12e	30	2335
Cooper et al's Brown 1-A, ne nw ne 36-19n-11e	*	250
WAGONER COUNTY—		
Sands Pet Co.'s Lovett 1, se se ne 22-17n-16e	*	1000

*Failures; †Junked; ¶Million cu. ft. gas.

NEW WORK DOWN

47 new tests are started in 19 Oklahoma counties

Tulsa.—New activity in Oklahoma showed a slight drop during the week when 47 first reports were made from 19 counties compared to 54 during the preceding week. Creek County led the list of new operations with a total of eight starts; Pontotoc and Stephens counties were tied with six each; Osage County had five; Seminole and Wagoner counties, three each; Hughes, Jackson and Lincoln counties, two each, and Carter, Comanche, Garfield, Johnston, Muskogee, Oklahoma, Okmulgee, Payne, Pottawatomie and Tulsa counties, one each.

The number of completions was increased from 41 during the week ending September 28 to 48 the past week. Of these 28 were oil wells with combined initial rating of 26,593 barrels, two were dry gas wells with combined initial volume of 6,500,000 cubic feet, 16 were dry holes and two were abandoned locations. Two of the oil wells were at discovery locations, one in Pontotoc County and the other in Seminole County. Of the total of 150,769 feet of completed drilling, 4958 feet was in the two wildcat discoveries, 12,759 feet in three wildcat dry holes and 133,052 feet in the 43 other completions. No old wells were involved.

TEST DISCOVERY

Altus, Okla.—Gypsy Oil Company's Boucher 1, NW SW SW 32-1n-19w, new discovery well 11 miles southeast of here in southeastern Jackson County, flowed 330 barrels during the 24-hour period ending at 7:00 a.m., October 3 and will take the 15,000 barrels to which discovery wells are entitled before shutting in to 100 barrels per day. Production is from the Cisco formation topped at 2595 feet and drilled to 2607 feet. Reports from Altus state that a hot leasing and royalty campaign is under way.

EDGAR D. KLINGER, San Angelo consulting geologist specializing in the West Texas Permian Basin, recently returned to his office after spending a month in New York and Pennsylvania on business.

KANSAS QUIET

29 completions include 17 oil producers

WEEKLY STAFF REPORT

Wichita, Kansas.—Dickey Oil Company et al's Chase 1, SE SE SE 11-27s-2e, about two miles northwest of the Eastborough pool a short distance from the Wichita city limits in northeastern Sedgwick County, had a hole full of water from Misener sand topped at 3155 feet, top of the Viola lime at 3161 feet, a small showing of oil in Simpson sand and shale at 3189 feet and set 6⅝-inch casing at 3182 feet. Drilling deeper operators had one-half bailer of oil per hour and a showing of water from 3253 to 3260 feet in sand, and went into siliceous lime at 3262 feet. At 3278 feet, the total depth, it had 200 feet of oil in the hole and pumped 37 barrels of oil and an unreported amount of water in 10 hours.

Bronk and Bailey's Kluesner 1, NW NW SE 34-15s-12w, three quarters of a mile west of the town of Dubuque and 4½ miles southeast of the Sellens pool in southeastern Russell County, swabbed 118 barrels in three hours and 35 minutes and was shut in. This discovery topped siliceous lime at 3275 feet.

A new outlet for western Kansas pools which is to be available shortly after the first of the year when the Socony-Vacuum, Empire, Phillips and Texas Companies' line is due for completion, had not shown material effect upon the activities of that portion of the state as had been expected. Most of the new work in the western counties is in the older areas where the market outlet situation is better although there evidently would be considerably more activity in Russell, Trego, Ellis, Rush and Barton Counties with outlets sufficient to give the new pools connections. Scouts made 29 first reports from 11 counties, a decrease of approximately 25 percent below the preceding week. Rice County again was in the lead with six new operations; Reno County had four; Butler, Ellsworth and Russell Counties, three each; Barton, Greenwood, McPherson and Sumner Counties, two each; and Coffey and Sedgwick Counties, one each. Nine of these were in eastern counties and 20 in western counties.

The 29 completions included 17 oil wells with a total initial rating of 11,205 barrels, four dry gas wells with combined initial volume of 33,500,000 cubic feet, seven dry holes and one abandoned location. Two of the oil wells were wildcat discoveries totaling 457 barrels initially. Of this total of 88,357 feet of completed drilling, 26,095 feet was in seven wildcat tests and 62,262 feet in the other 22 completions, no old wells being involved.

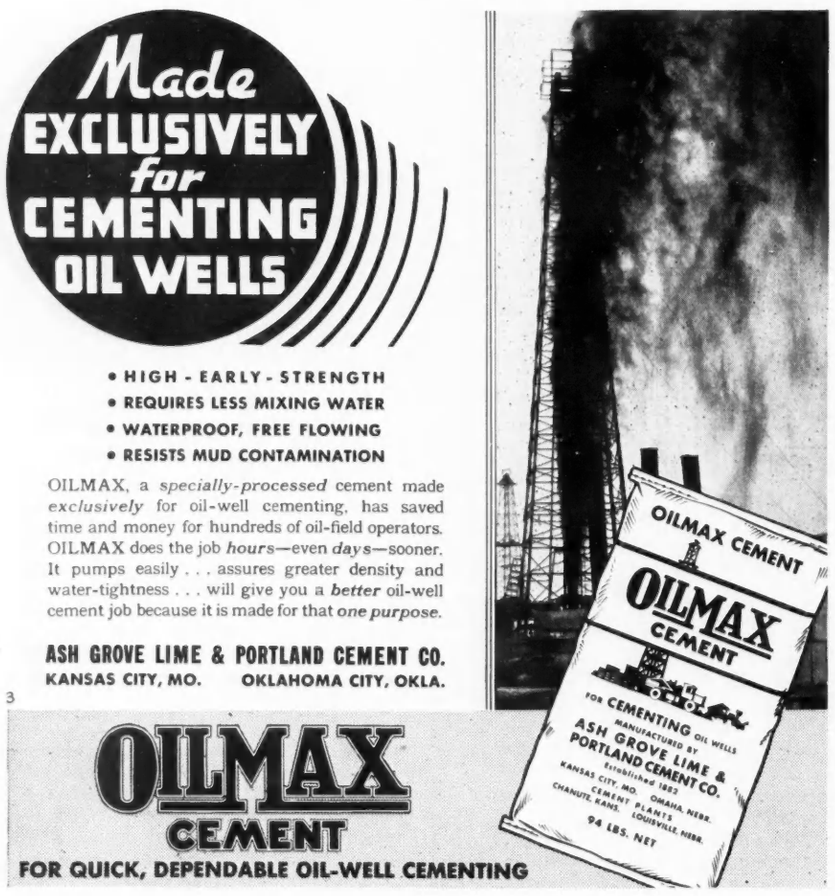
POTENTIAL TESTS

Wichita.—Potential tests were started on 50 Kansas pools on Friday, October 4, under orders of T. A. Morgan, director of the oil and gas conservation department. Duration of the tests is from one to four 24-hour days, each lease being required to produce its daily allowable during the 24-hour period immediately preceding the commencement of potential gauging. All gauging was due to be completed on October 25 and potentials to become effective on November 1. Sixteen pools are to have one-day tests, 11 were to have two-day tests, 15 were to have three-day tests and eight were to have four-day tests.

KANSAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARBER COUNTY—		
Wentz Oil Co.'s Skinner 1, nw nw ne 29-31s-14w	*	4693
BARTON COUNTY—		
Continental Oil Co.'s Klug 1, cn½ n½ ne 18-17s-12w	*	3593
BUTLER COUNTY—		
Richmond & Reigle's West 1, ne nw sw 28-27s-4e	*	2450
COFFEY COUNTY—		
Franklin Drlg Co.'s Rossillion 1, se se se 1-23s-14e	¶1½	1214
Aikman & Braden's Povenmire 1, se nw nw 14-22s-13e	30	1875
ELLSWORTH COUNTY—		
Empire O&G Co.'s Schmidt "B" 2, ne se nw 14-17s-9w	lcn.	abd.
C. B. Davis et al's Melchert 4, nw nw ne 23-17s-9w	414	3181
Phillips Pet Co.'s Melchert 3, nw sw ne 23-17s-9w	1109	3194
The Texas Co.'s Dees 2, se ne nw 23-17s-9w	1368	3175
Dees 3, ne se nw 23-17s-9w	1155	3183
Rosenthal & Beardmore et al's Becker 1, nw nw sw 25-17s-10w	120	3271
GREENWOOD COUNTY—		
Siefkin et al's Stonebreaker 2, nw se se 32-27s-11e	¶1	1152
McPHERSON COUNTY—		
Johnson's McGill 3, se sw nw 20-19s-1w	113	3432
Youker's Williams 1, nw ne ne 6-19s-2w	*	2420
Shell Pet Corp.'s Hull 5, ne nw sw 11-19s-2w	245	3378
RENO COUNTY—		
The Texas Co.'s Collins 1, cne nw 16-24s-4w	¶22½	3340
Haynes Bros et al's Mueller 1, se se nw 30-24s-4w (pb 3399)	408	3701
RICE COUNTY—		
Vickers Pet Co.'s Gouldner "B" 1, ne se nw 16-18s-9w (pb 3025)	¶8½	3285
Aylward et al's Rickard 1, sw sw nw 22-18s-9w (pb 3365)	201	3400
Gypsy Oil Co.'s Coffman 2, sw nw sw 5-20s-9w	1164	3247
Lario O&G Co.'s Foote 2, nw sw ne 7-20s-9w	912	3282
Gypsy Oil Co.'s Smith 2, ne se ne 16-20s-9w	1018	3243
Sinclair Prairie Oil Co.'s Graham 1, sw sw se 16-20s-10w	1476	3355
ROOKS COUNTY—		
Tree Oil Co. & Findeiss' Johnson 1, sw sw se 26-10s-19w	256	3349
RUSH COUNTY—		
Twin Drlg Co.'s Appel 1, sw sw ne 29-17s-17w	*	3661
Gypsy Oil Co.'s Kraisinger 1, se ne se 23-18s-17w	*	3720
RUSSELL COUNTY—		
The Texas Co.'s Johnson 2, ne nw ne 2-14s-15w	40	3338
SCOTT COUNTY—		
Atlantic Oil Co.'s Dague 1, csw nw 14-20s-33w	1176	4646
STAFFORD COUNTY—		
Sedgwick Oil Co.'s Ellinwood 1, se sw sw 33-21s-11w	*	3679

*Failures; †Junked; ¶Million cu. ft. gas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EAST TEXAS GAUGES

Kilgore, Tex.—New potential gauges given five of the 70 key wells in the East Texas field scheduled for testing under a special order issued by the Texas Railroad Commission revealed a slight drop in the rate of flow of three wells, and gains were recorded by the other two. Wells are gauged in the presence of witnesses for a two-hour period, flowing through two four-inch lead lines on casing and with tubing open.

Superior Oil Company (Cal.'s) L. C. Ingram 1, W. E. Pasteur Survey, Gregg County, which was completed July 20, 1931, boosted its hourly potential by 72 barrels in flowing an average of 1003 barrels per hour. Bay Oil Corporation's B. B. Peterson 6, Carruthers Survey, Rusk County, scored a gain of 51 barrels in earning a potential of 1004 barrels hourly. It was completed in July, 1933. Losses ranging from 10½ to 12 barrels were sustained by S. S. Laird et al's Peterson 6, Rusk County; Stanolind Oil & Gas Company's Albright 8, Gregg County, and Tide Water Oil Company's Barton 24, Gregg County.

NORTH TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns et al, Macon-White 93, sec 35	3	1609
York 1-A, sec 1583	100	1317
R. H. Busby et al, J. L. Anderson 2, blk 18	35	1422
Cable Oil Co., S. Webb 3, blk 5	13	700
Conoco, W. J. Logan 16-A	*	1157
S. H. Fagadau et al, J. S. Bridwell 1-B	*	1050
W. E. Maxson, Jr., et al, John Conner 1	*	1138
Jack L. Storey et al, J. A. Ayers 1	*	709
BAYLOR COUNTY—		
Consolidated Oil Co., Portwood 5-R, sec 1579	700	1361
Portwood 6-R, sec 1579	1500	1360
Pet. Producers Co., Portwood 10-H, sec 1579	336	1374
Ray & Staniforth, Portwood 16-C, sec 1574	1500	1352
Portwood 17-C, sec 1574	1000	1357
Portwood 18-C, sec 1574	700	1355
COOKE COUNTY—		
Fain-McGaha Oil Corp., J. W. Chaffin 6	*	1107
Merrick Drl. Co., A. Knabe 9	10	845
Mudge Oil Co., Johnson 1-A	45	1135
R. W. Trew 2-B	10	794
A. D. Robinson et al, J. H. Otto 1-A, blk 5	25	800
The Texas Co., Nat Piott 5	85	671
JACK COUNTY—		
Bolling et al, Rosa Allen 1, sec 1	*	610
Engineers Oil Prop. Co., S. C. Shanafelt 1	80	2988
MONTAGUE COUNTY—		
Conoco & Seitz-Comegys, S. J. Holt 9	106	1593
WICHITA COUNTY—		
Deep O. D. Co., Munger 3-A	240	3890
W. B. Omohundro et al, D. E. Hooks 7	50	1294
Panhandle Ref. Co., K & K 1, blk 19	*	1824
A. C. Parks et al, J. E. Roller 1	*	824
J. H. Turner et al, J. M. Honaker 1	*	1706
WILBARGER COUNTY—		
McAlester Fuel Co., Waggoner Est. 15-T, sec 35	150	1894
YOUNG COUNTY—		
Gorsuch Oil Co., Matthews 16	9	721
W. F. Hamilton et al, J. K. Jeffery 1-A, sec 52	*	1621
J. K. Jeffery 1-D, sec 47	*	873
D. M. Knox et al, Eugenia Taylor 2, sec 3407	75	2736
Underwood & Campbell, R. W. Campbell 2-C, sec 3401	*	963
R. J. Watson et al, J. F. Larimore 1, sec 253	*	665
Womac Oil Co., R. L. Webb 1, blk 1	*	789

*Failures; †Junked; ¶Million cu. ft. gas

Ordovician Show

CRANE TEST RUNNING HIGH CORES OIL SATURATION

NORTH & WEST TEXAS

WEEKLY STAFF REPORT

San Angelo.—Recovery of cores showing oil saturation from the Ordovician lime section by Gulf Production Company's W. N. Waddell et al 1, situated in the Sand Hills area, western Crane County, after encountering the lime zone at an abnormally high structural position has injected new life in the search for deep production in West Texas. Mid-week drill stem test made with the hole bottomed at 6075 feet, or 3521 feet sub sea, failed to yield production. An electric formation surveying instrument was scheduled to be used late last week, then the company-manned crew will resume coring.

Production from the Ordovician horizan is the most sought goal in West Texas, because of the spectacular permanence of the formation at the 8300-8800-foot level in the Big Lake field, which yields high gravity crude carrying an exceptionally valuable lube oil content. More than a dozen unsuccessful Ordovician lime tests have been drilled in West Texas since the strike was made at Big Lake late in 1928. Five were carried to depths ranging from 9811 feet to 12,786 feet, the latter affording a depth record for the world.

Gulf Porduction Company holds leases on large ranches surrounding its Ordovician prospect, except directly east and to the southeast, and entered competing bids with others for additional protection in the latter two directions when laboratory analysis confirmed the presence of the Ordovician section. Outsiders took action immediately after the discovery and without waiting for a formation test to acquire all available leases and royalty interests in the general area, with the play extending on south to the Pecos River. It has been generally known among geologists that the Sand Hills area involves one of the largest subsurface structures ever outlined by geophysics in West Texas, although the Permian lime horizon, with two small oil and gas wells in the 4300-foot zone, has been somewhat of a disappointment. Three dry holes have been drilled a short distance to the northeast and northwest and about 2¾ miles to the southwest of the discovery well originally brought in on October 7, 1930, on the J. B. Tubb ranch, SEc NE¼ Section 8, Block B-27, by Gulf Production Company and Truett B. Cranfill. This first well is flowing about 15 barrels oil daily. Cranfill and American Liberty Oil Company's Tubb-Humble 1, SWc Section 11, recently widened the field about two miles to the southeast with a 25-barrel producer after shot in lime at 4314 feet.

Gulf Production Company's geological organization has been a strong contender for deep production possibilities in the Sand Hills area The company made an unsuccessful try at promoting a joint test last year that would involve the deepening of one of the dry holes from the 4500-foot level to the Ordovician, or 10,000 feet, and offered to contribute about $97,000 cash towards supporting the project. Having failed to put over the joint test the company started operations on its Waddell deep test, located at C of NW NW Section 4, Block B-27, or 2¼ miles northwest of the producer on the Tubb discovery lease, on December 9. Cable tools were used in drilling to 4595 feet, where heavy flow of badly contaminated sulphur water practically checked operations. A super-type Diesel engine powered rotary rig, formerly used in Mexico, replaced the cable tools and drilling was resumed last June 29. New string of drill pipe used in negotiating the 1480 feet of hole made by the rotary rig was replaced by a smaller new string because of the corrosion and chemical action of the sulphur water. The test was drilled with open hole below the 2400-foot level. Should further coring reveal additional saturation operations will be halted to run pipe for a production test.

Thick section of the Pennsylvanian limestone was absent in the Waddell ranch test. The company has not made public the identity of the Ordovician

—Map Courtesy Zingery Oil Map Company, Fort Worth

Relative position of the Gulf Production Company's Ordovician lime test on the W. N. Waddell ranch, western Crane County, to he Sand Hills oil pool is pictured by the above map.

section and the depth that it was encountered, as it has several lease trades pending. The Ordovician scores a phenomenal rise in putting in its appearance near the 6075-foot level in western Crane County, as Gulf Production Company's J. T. McElroy 103, situated about 20 miles to the east by south near the Crane-Upton County line, logged Pennsylvanian limestone from about 7500 to 10,167 feet, followed by upper Ordovician to 12,391 feet. The lower section, or Ellenberger member, principal producing zone at Big Lake, was logged from 12,391 to 12,786 feet, carrying salt and sulphur water. This record depth test has since been plugged back and completed in the regular 2800-foot lime zone.

Humble Oil & Refining Company's White-Baker 1, situated west of the Yates field, Pecos County, and about 30 miles south of the McElroy deep test, logged first Ordovician at 8040 feet, and lower zone, or the Ellenberger at 9385 feet. It was carried to 9811 feet, or 426 feet into the Ellenberger, resulting in a water well. Skelly Oil Company et al's University 1-D, situated about seven miles southeast of the Big Lake field, entered the Simpson lime section of the Ordovician at 9400 feet, and after drilling to 9967 feet plugged back to the regular lime pay at 3100 feet for a small well.

Reports indicate that the Ordovician zone has not been reached by Humble Oil & Refining Company's L. W. Pollock-Gulf 1, northeastern Upton County wildcat, after drilling below 10,100 feet. John I. Moore, Loffland Brothers et al's L. S. McDowell 1, Glasscock County, is awaiting orders at 10,115 feet with a small amount of oil and gas showing after acid treatment. It is credited with having penetrated the upper section of the Ordovician.

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Fuhrman Field)—		
Fuhrman Pet. Corp., W. T. Ford 2, 608		4481
FISHER COUNTY—		
E. L. Smith Oil Co.-Neversuch Oil Co., fee 4	168	3110
HOWARD COUNTY—		
Bond Oil Corp., et al, Texas L&M Co. 4	1229	3747
Conoco & Group 1 Oil Corp., Settles 13-A	1383	2423
Iron Mountain Oil Co., C. D. Reed 4	725	2759
John I. Moore et al, D. H. Snyder 1	144	3010
JONES COUNTY—		
R. L. Crawford et al, S. R. Walser 1	55	1957
PECOS COUNTY (Taylor-Link Field)—		
Amerada, University 4-A	360	1661
PECOS COUNTY (Yates Field)—		
Gulf, M. A. Smith 27-A	255	868
Marathon, T. G. Yates 40-A	21,336	1470
Shell, M. A. Smith 2-E	250	1350
REAGAN COUNTY—		
Plymouth Oil Co., Kirchner-White 1	*	3370
UPTON COUNTY—		
TP Coal & Oil Co.-Simms Oil Co., Lane 5-D	98	2362
WARD COUNTY—		
California Co., A. B. Gordon 14	1598	2523
Walling-J. L. Costley 1	166	2537
Gulf, Wristen Bros 4	10	3100
Shell, Sloan Owen 3	589	3035
WINKLER COUNTY (Halley Field)—		
Sun, S. M. Halley 1	30	3173
WINKLER COUNTY (Hendrick Field)—		
Humble, J. B. Walton 2-A	500	3103
WINKLER COUNTY (Keystone Field)—		
Gulf, Keystone 2	66	3702
WINKLER COUNTY (Sayre Field)—		
Mid-Continent Pet Corp., J. F. Howe 3-B	512	3027

*Failures; †Junked; ¶Million cu. ft. gas.

Yoakum County Strike

SHOW FOR COMMERCIAL OIL OPENS WIDE POSSIBILITIES

Midland, Texas.—Bearing the earmarks of a commercial oil producer, the Yoakum County wildcat of C. J. Davidson, Fort Worth, and Honolulu Oil Corporation, Midland, Texas, on the L. P. Bennett ranch, C NE NE Section 678, Block D, John H. Gibson Survey, has pushed production from the Permian lime zone in West Texas on a direct strike about 42 miles to the north of the Ector-Andrews County trend. Possibilities of a series of fields being uncovered on this new strike and parallel "lime highs" surpasses in importance the discovery of another oil field in the basin. Anticipating eventual developments of this nature operators have been giving Gaines County, situated between Andrews and Yoakum Counties an intensive lease and royalty play within the past year, supported by favorable geophysical surveys.

The Bennett test is one of the most unusual of the many wildcat strikes made in West Texas. The Hobbs field, Lea County, New Mexico, 33 miles southwest, is the nearest production, but on a separate trend. The well represents the second try for production in Yoakum County, and is the first to drill to the dolomite lime. It is 28 miles from any test that has reached this decisive level. The owners drilled about 90 feet below their contracted depth, assumed in selling off lease spreads, and by uncovering production enabled the fee owner to forestall foreclosure of a mortgage on the ranch property by a margin of one day through the sale of royalty interest. There are no railroads in the county, which is also void of hotel or restaurant.

The producing horizon in the Bennett test was tapped several feet above the 5090-foot level, or 1533 feet subsea, on September 28. The cable tool driller pulled the tools at this depth to make a routine change of bits, and found same covered with typical West Texas sulphur oil. The hole filled 75 feet with oil the first hour, and on the following day had increased to about 800 feet in spite of a bridge forming nearly 500 feet off bottom. Operations were halted at 5090 feet, pending arrival of casing to set for a production test. Before news of the strike became generally known the well owners added considerable acreage to their original block of 5100 acres donated by Texas Pacific Coal & Oil Company as a means of obtaining a 5000-foot test near the heart of its 9600-acre leasehold. The latter is one of the largest close-in lease owners, and has checkerboarded the entire county with protection.

Geological Markers

Progress on the Yoakum County test has been followed closely since a small amount of gas was developed in the Yates sand at 3220 feet, followed by a show at 3400-10 feet. Gas shows in the Yates zone is proving to be a fairly reliable forecast of a strike in the lime on West Texas wildcats. Top of anhydrite was logged at 2424 feet, and first salt section at 2530 feet. First lime marker was noted at 4661 feet, and the main section of lime was topped at 4820 feet, although it carried anhydrite at intervals. The lone previous test given the county was a failure completed in July, 1929, at 4504 feet and above the lime by the late J. P. Johnston and Weekly Oil Corporation's R. L. Knight 1, C NW Section 791, Block D, J. H. Gibson Survey.

The Santa Fe Railroad owns the fee and mineral interest on a block of about 65,000 acres beginning south of the Bennett ranch to the center portion of Gaines County. Two tests by independents are slated to get under way in the latter county and to the northwest of Seminole, which centers on a highly touted geophysical instrument outlined structure. Humble Oil & Refining Company is a firm believer in the prospect, having paid Texas Pacific Coal & Oil Company $50,000 cash late last year and agreed to drill the first two tests free, if any exploration work takes place, for

WEST CENTRAL TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
L. B. Owens et al, Reaves 1	10	1291
CALLAHAN COUNTY—		
E. P. Campbell et al, Kate Duggan 1	*	1600
Hart & Whittiken, E. L. Finley 1	¶1	536
Tooley & Peterson, T. Jackson 1	*	600
COLEMAN COUNTY—		
Anzac Oil Corp., J. P. Morris 1-C	*	2695
Glenn Myers et al, E. W. Gill 2	*	791
COMANCHE COUNTY—		
Forester & Mann, S. T. Zellers 1	*	2910
EASTLAND COUNTY—		
Murry & McDavid, L. E. Murrell 3	10	1324
PALO PINTO COUNTY—		
Palo Pinto Oil Corp., Straw Coal Co. 13	13	3238
SAN SABA COUNTY—		
Mutual Roy. & Dev. Co., B. M. Winkler 1	*	1155
SHACKELFORD COUNTY—		
Albany Oil Co. & H. Pardue, G. R. Davis 4	25	1604
Banner & Elmore, J. H. Nail 2	*	1205
Dickey Bros., B. S. Walker 3	*	482
B. S. Walker 4	*	406
Grove, Rhodes, Jones & Stasney, Matthews 1	*	1024
Hart et al, J. H. Elliott 3	†	588
Hoffman-Page Co., Morris-Buie 15	50	1599
Livingston & Wellman, A. J. Swenson 1	8	1600
Morlang & Kingery, G. R. Davis 2	40	1610
F. H. Peckham et al, J. B. Matthews 2	*	1205
Pitzer & Wyst, DeLafosse 1	†	4461
Reliance Oil & Roy. Co., Diller 6	*	572
Diller 7	*	527
Rhodes & Higher, Davis 14	*	1594
Roeser-Pendleton, Inc.-Conoco, Cook 62-A, sec 61	54	1333
H. Slicker et al, J. B. Matthews 6	4	1177
Tannehill et al, Matthews 25	*	1702
A. C. Tillman et al, W. H. Green 1	13	1125
Wilson Drl. Co., Morris-Buie 8	15	1520
STEPHENS COUNTY—		
A. S. Michael et al, Whitney 1	†	745

*Failures; †Junked; ¶Million cu. ft. gas.

one half interest in lease covering 3100 acres near Seminole. The former boosted its lease bonuses for small tracts in and near Seminole to $100 per acre last June. Harry Adams Corporation and W. T. Walsh have financed the drilling of Averitt 1, NEc NE NE Section 228, Block G, W.T. Ry. Co. Survey, located several miles northwest of the town. Two small tracts were donated while a number of majors holding leases in the immediate area contributed dry hole money. E. M. Wahlenmaier and York & Harper, Inc., also have been successful in promoting a test about 16½ miles northwest of the town, with location for E. H. Jones-Humble 1, C SW SW Section 414, Block G, CCSD&RGNG Ry. Survey, as announced in these columns in August. Humble Oil & Refining Company contributed leases on 12 160-acre tracts out of its block in the area, while other majors assisted by contributing leases or buying spreads.

Cochran County

Humble Oil & Refining Company has an interesting wildcat under way on the C. C. Slaughter 3505-acre lease, League 135, Armstrong County School Land Survey, Cochran County, situated about 40 miles to the north by west on a trend from the Yoakum County wildcat strike. It is in vicinity of previous tests that produced limited quantities of oil from the lime, but not sufficient to make commercial wells. The Slaughter test cemented 10-inch pipe at 2310 feet, and has since drilled plugs and resumed operations with cable tools after reaching the salt section with rotary.

Lou G. Stogner, Amarillo, and associates' C. C. George 1, C SE SE Section 25, Block A-22, P.S.L. Survey, near center north line of Andrews County and about 7½ miles northwest of the Means field, developed free oil from lime at 4330-35 feet, but failed to register appreciable improvement in saturation in progressing to the 4415-foot level. At the latter depth the wildcat accounted for three bailers of oil and twice the volume in salt water. It was drilled on one of five 160-acre tracts donated by Texas Pacific Coal & Oil Company. Atlantic Oil Producing Company has bought lease protection involving a bonus of $10,400, while other majors gave support by purchases. Completion of a producer on the George tract largely rests upon the finding of a lower pay within the next 200 feet. Top of Yates sand was logged at 2930 feet, with an elevation of 3253 feet. Lower key formations reeval a somewhat similar structural position as that of the Means field.

Production in the Means field was widened to the west last week by completion of Sun Oil Company's J. S. Means 1, C NE SE Section 8, Block A-35, P.S.L. Survey, resulting in a flowing well after heavy shot of nitro in lime at 4545 feet, or 1376 feet sub-sea. An accurate gauge was not available.

GAS TAX BILL

Austin.—The House Committee on Revenue and Taxation has approved a bill to increase the production tax on natural gas.

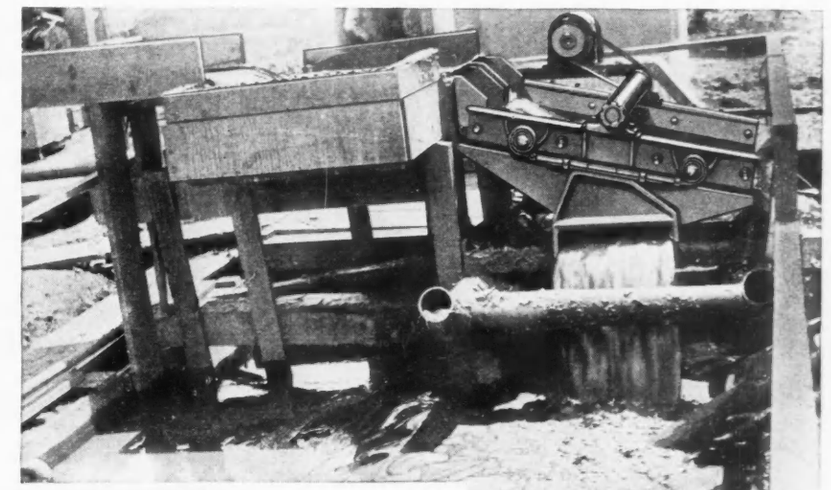
House Bill 65, by Rep. Cecil Lotief, was amended by the committee to provide for a tax of 5 percent of the value on gas produced from wells whose production is less than 250,000,000 cubic feet quarterly.

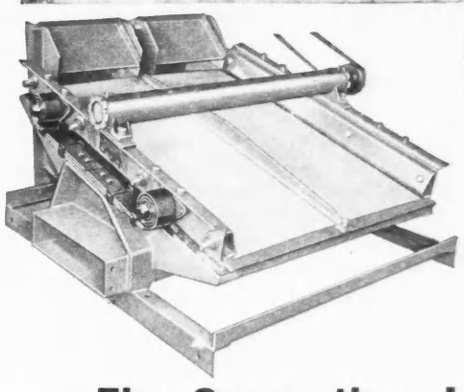
Gas from wells with greater production would be taxed at 10 percent of the value.

TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Magnolia, Fee (No. 244) 12	186	3050
GRAY COUNTY—		
Empire G&F Co., A. J. Culler 7....	548	3319
Kewanee O&G Co., R. E. Smith-Rest 16	761	3250
Parton & Holt, J. S. Morse-Gulf 1..	*	2192
Skelly Oil Co., H. Schafer (east) 29	1100	3265
Stanolind, A. J. Culler 3	716	3275
W. G. Kinzer 3	509	3300
Suloch Oil Co., J. S. Morse 9-A	348	2695
The Texas Co., O. N. Frashier 3...	79	3327
HUTCHINSON COUNTY—		
Int'l Pet. Corp., T. Lewis-Badger 16	353	2974
Stanolind, H. C. Pitcher 4-B	308	3140
Harry Stekoll, J. A. Whittenburg 1-H	485	3051
J. A. Whittenburg 2-H	262	3054
WHEELER COUNTY—		
Helena O&G Co., P. M. Keller 16..	3612	2534
Teci Prod. Co., J. P. Patterson 1	¶10½-646	2074

*Failures; †Junked; ¶Million cu. ft. gas.





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Cayuga Deep Test

TRINITY AT 9082 FEET IS 225 DEGREES TEMPERATURE

WEEKLY STAFF REPORT

Palestine, Texas.—High pressure gas bearing formation cased off in the upper section of the Trinity sand without testing is being relied upon by Tide Water Oil Company and Texas Seaboard Oil Company to yield deep production after their N. N. Wills 21-A, first Trinity test given the Cayuga field, encountered hot salt water horizons in drilling to 9082 feet. Officials of the two companies announced at the conclusion of a conference early last week that the test had reached the Red Bed series in the Basal Trinity in establishing the new depth record for the Woodbine sand belt. However, the customary drill stem test was authorized, and possibly a survey of the open hole with an electrical formation surveying instrument, before attempting to plug back and perforate the casing.

Upper Trinity series carried gas that frequently threatened to unload the hole of extra heavy drilling fluid. The well was drilled to 8867 feet, then cased to the 8750-foot level with seven-inch pipe, but showed only hot salt water when unloaded and swabbed. Temperature readings taken at the bottom of the hole prior to the landing of pipe recorded 225° F., while the rotary returns at the surface averaged about 140 degrees. The hole will be plugged back to the base of the casing, then pipe perforations and swabbing tests will be made at intervals above 8730 feet. Regardless of the results attained from the upper Trinity, a producer is assured from the Woodbine sand zone near the 4050-foot level, as the test is surrounded by flowing wells.

Less Drilling Activity

Drilling operations in the Cayuga field have subsided after reaching a high level within the past three months. Current activity is confined to a few independents in the north portion of the structure, centering on the Anderson-Henderson County line. Earning capacity of properties will be augmented in November by completion of Lone Star Gas Company's 20-inch natural gas trunk line outlet.

Long Lake

Tide Water Oil Company and Texas Seaboard Oil Company have their second well standing by to complete in Woodbine sand at 5313 feet, or 5083 feet sub-sea, in the Leon County section of the Long Lake Field. A. W. Johnson 1, located about a mile northwest of a completed gasser, logged gas sand carrying evidence of distillate saturation in the Woodbine series, topped at 5221 feet. Seven-inch casing was cemented at 5307 feet.

Camp Hill Field

Operations in the Camp Hill field, Anderson County, were temporarily halted with the completion of Gulf Production Company's E. T. McCain 1, NEc of 80-acre lease, P. Martin Survey, offsetting the discovery well of the Woodbine zone, flowing 14 barrels hourly through 3-8-inch choke from Woodbine at 5165-71 feet. It failed to score commercial production in the sub-Clarksville sand, the principal producing horizon for the area, at 5060-65 feet.

Exploration of a huge block of leases held by J. S. Abercrombie Company and Harrison Oil Company in Red River County, near the Oklahoma border, has been resumed after previously drilling four failures to depths ranging from 1032 to 2075 feet. Each drilled through the Woodbine section, and the deepest reached the upper section of the Trinity series. Drilling is in progress on Southern Pine Lumber Company (Wright) 1, located on 62½-acre lease, Samuel Pew Survey, six miles north of Bagswell.

Two wildcats in Upshur County were listed as failures the past week. Thos. D. Humphrey et al's Frank Farmer (Flewellen) 1, located on 256-acre lease, John B. Goy Survey, eight miles northeast of Gilmer, tested salt water in Woodbine sand at 3889 feet. Joe A. Papadakis, Houston, and others who have drilled three previous unsuccessful tests to the northwest of production in the East Texas field, failed to encounter oil when formation tester was used on W. H. Allen 1, SEc 37-acre lease, Lino Gonzales Survey, about eight miles south of Gilmer, with the hole bottomed in sand at 3776 feet.

The Southwestern Ruck County wildcat of L. B. Prior and A. B. Edwards, Henderson, Texas, on the W. R. Poston 50-acre lease, Jacob Roth Survey, situated several miles southeast of nearest production in the East Texas field, has progressed below the 2500-foot level. It is several miles northeast of W. R. Ramsey et al's M. Kangera 1, NWc of 229-acre lease, R. A. Allen Survey, which showed small amount of oil with lots salt water in Woodbine sand at 3796-3824 feet, with the hole bottomed at 3883 feet, or 3458 feet sub-sea.

Five Years Old

EAST TEXAS HAS PRODUCED 800,000,000 BARRELS

Tyler.—The East Texas field rounded out is fifth year on October 3 as a source of high gravity oil, with an accumulative recovery of more than 800,000,000 barrels from 18,785 completed producers distributed over an area involving about 130,000 acres. Approximately 1100 operating units are sharing in the development and production, which is prorated to an average of 22.6 barrels per well daily.

Rated as a market factor by the performance of extension wells completed within 90 days after the discovery well developed flowing production from the Woodbine sand zone near the 3600-foot level, the field still retains a dominating position over the crude price and market structure. It forged to the front as the most active drilling center early in 1931, and has maintained this leadership to the present day, with current field reports listing more than 125 rotary rigs in active use.

An average density of one well to five acres, or less, will eventually be given the greater portion of the field. Independents have been the most aggressive in boosting the density for several years, owing to the method of proration placing a premium on closely drilled properties.

Completions in the field dropped to a seasonal low mark of 50 wells per week early in September. This slump is to be only temporary, as the railroad commission gave approval for the drilling of 551 tests between August 28 and September 27. Independents were awarded 377 as compared to 174 for the 14 major units participating. During this period the commission turned down 70 applications filed by independents and five sought by majors. The latter are generally reluctant to drill what may be termed unnecessary wells, thus accounting for their low ratio of turndowns, while many of the permits approved for independents involve leases that average less than three acres per well.

The East Texas field extends in a northeast to southwest direction about 45 miles with an unbroken string of production, with a maximum width of about nine miles. The outer boundary involves about 110 miles, entering parts of five counties.

Ability of the field to produce a large volume of oil under open flow is fully

borne out by recent potential gauges conducted for two-hour periods. Wells occupying favorable structural positions and supported by thick sections of sand range up to 1004 barrels per hour, based on the brief gauge. A large number of wells situated less favorable in regard to sand conditions are credited with having ceased to flow natural, although the number of wells making use of pumping equipment are estimated at 1500. Installation of mechanical gas lift devices, and direct gas and air injection units affords the lifting power for a greater number of wells.

The original producer in the East Texas field is listed among the wells placed on pump during the early stages of development, and has an accumulated production of approximately 71,000 barrels. C. M. "Dad" Joiner, who is now a resident of Dallas and confining his efforts to the drilling of wildcats in various sections of Texas, proved the East Texas structure for commercial oil production by the completion of Daisy M. Bradford 3, situated near the east edge of the Joiner area, on the night of October 3, 1930, flowing by heads from broken sand section at 3536-92 feet. Two previous tests on nearby locations were junked while drilling at shallow depths. The discovery well entered the producing zone and responded favorably on drill stem test made September 5, but nearly a month elapsed before a string of casing could be financed and landed for definite test for production. The well registered a maximum flow of 458 barrels daily, and was placed on pump the following February.

Joiner's discovery well and surrounding properties were placed in voluntary receivership within a month after the completion of the producer. Lease interest owned by Joiner was passed to Hunt Production Company, Tyler, by assignment on November 26, 1930, and the latter took possession when receivership operations were terminated in July, 1931. Hunt Production Company recently turned all but the west seven acres of the 80-acre tract, bearing the original well, to Broughton Wilkinson of Greenville, Alabama, who is developing small pumpers. Panola Pipe Line Corporation, pipe line subsidiary of Hunt Production Company, began running oil from the original well on December 1, 1930, and up to September 1, 1935, credited the well with producing 60,588 barrels, according to H. B. Harter, vice president. The well now produces its proration allowable of 20 barrels daily.

REVISE POTENTIALS

Commission to aid East Texans defray expense

Austin.—The Texas Railroad Commission has revised its potential test order in the East Texas field to aid operators in defraying the cost of such tests.

In an order effective September 27 the commission provided that "where the commission requires an operator to test wells . . . the operator shall be given one-half of the total amount of oil produced on the two-hour test to compensate for the expense of making such tests. This oil shall be tendered and not charged against the allowable for the well tested. This does not mean that the commission will defray either part or all the expenses of future wells which will be tested where the operators request such tests; in other words, after October 15, 1935, no well will be given oil to help defray the expense of taking potential tests."

The commission has ordered a series of special tests on 66 key wells scattered throughout the East Texas field, which tests are to be completed by the 15th.

The tests were considered essential to assure operators that allowables based on potentials were fairly distributed. Some question over the accuracy of tests now used arose when it was discovered that the potential map upon which such tests are recorded had been subjected to tampering.

Results of the test are to be presented at the statewide proration hearing set for October 17.

Drilling Increases

JOINER AREA GETS SHORT EXTENSION TO SOUTHWEST

Tyler, Texas.—Approximately 125 rotary rigs now are active in the East Texas field. Active tests declined to a seasonal low mark of about 100 during the early part of September, but the approval of large batches of applications to drill given during the month by the Texas Railroad Commission is resulting in a sharp upturn in field work.

The field was credited with 60 completions the past week, including two dry holes and a junked test. Independent units contributed 35 of the completions.

Percentage of non-flowing wells among new completions continues at a high rate owing to volume of development taking place on the edges of the structure and in the low pressure areas. Twelve of the producers added last week failed to register natural flow on initial gauges.

C. A. Everts Drilling Company's Sam Overton-Marathon 2, NEc of 138-acre lease, NEc C. N. Breen Survey, Rusk County, is a minor extension to the southwest for the Joiner area with a natural flow of 157 barrels of oil per hour through open tubing from sand at 3623-24 feet. The well has a sub-sea depth of 3302 feet.

EAST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Atlantic, Pinkston 16-A (87-ac)	8800	3677
Kate W. Davis (McDonald-Campbell, Wheelis 5 (9.91-ac)	7000	3744
Delta Drl. Co., Jackson 4	6400	3797
Ebony Oil Co., Deason 6 (25-ac)	4500	3683
Elm Oil Co.-C. H. Alexander, Eaton 5-A (20-ac)	8000	3755
C. A. Everts Drl. Co., Sam Overton-Marathon 2 (137-ac)	10,000	3624
Florence Oil Co., J. B. Wilson 1-A (8-ac)	10,000	3798
Great States Oil Corp., M. Smith 7, blk 16	100	3665
Gulf, Grissom 14 (99.84-ac)	9000	3665
Maxwell 13 (57.01-ac)	8800	3743
Stone 12 (107.58-ac)	8000	3786
Hinton et al, Mayfield 14 (94.39-ac)	2500	3767
Humble, Turner 14-A (126.26-ac)	9600	3715
Watkins 2 (52.42-ac)	*	3585
McCutchin et al, Clay 5 (17-ac)	500	3665
McMurrey et al, Turner 18 (83-ac)	3500	3806
Marathon, H. Clay 15 (113.56-ac)	480	3672
H. Clay 16 (113.56-ac)	480	3620
H. Clay 17 (113.56-ac)	1000	3705
Massie and Riner, Herring 2 (15¾-ac)	100	3655
John F. Merrick et al, Negro Methodist Church 1 (1-ac)	500	3814
M. Nathan et al, Ras Redwine 1	*	3602
Oconee Oil Corp., Moore 1 (10-ac)	360	3585
Overtex O. & G. Co., Rettig 1-A (40-ac)	250	3673
Rogers & Harper (Roil Pet. Corp.), Arp School 1 (½-ac)	10,000	3824
Sinclair Prairie, Moore 9 (94-ac)	3000	3726
Wiley 11 (312.11-ac)	†	3810
Stanolind, Maxwell 22-A (111.65-ac)	6500	3809
Sun, Pace 20-B (637.45-ac)	750	3774
Texas Canadian Oil Corp., Gilstrap 1 (15.34-ac)	145	3676
Gilstrap 3 (15.34-ac)	125	3628
Pace 4 (35-ac)	5400	3808
Tide Water, Pinkston 21 (135-ac)	5500	3748
Trentman Oil Corp., Hodges-Greve 3 (12½-ac)	5600	3777
KILGORE AREA—		
American Liberty Oil Co., Sabine River 16, tr 7	9000	3485
Carroll et al, Sharp 1, blk 154	500	3596
Groneman et al, Mayfield 1 (35-ac)	480	3667
Humble, Sexton 16-A (137.48-ac)	7500	3633
Hurricane Pet. Corp., King 6 (35-ac)	7000	3704
Idaho Oil Co., Dickson 4 (20-ac)	360	3562
Jones-Doss Oil Co., Martin 3-A (13.13-ac)	5000	3721
Meco Prod. Co., T. Williamson 4 (150-ac)	7600	3694
Pearce & Moore, James 1, blk 3	5000	3585
B. C. Redgrave et al, Sexton 1 (185-ac)	500	3635
Shell, Laird 19-A (211.31-ac)	7600	3542
Sun and Texas Seaboard, Campbell 13 (106.9-ac)	9400	3574
LONGVIEW AREA—		
Arkansas F. O. Co., Bolton 5-A (56.66-ac)	3000	3523
Lathrop 7-B (58.82-ac)	7600	3622
McKinley 9-B (69.01-ac)	8000	3581
Tuttle 8 (61.51-ac)	9300	3597
B. G. Barnett et al, Buckholt 4 (63.7-ac)	840	3746
Delta Drl. Co., Salter 6 (52-ac)	3500	3790
Bert Fields et al, Johnston 1 (10-ac)	7500	3695
Magnolia, Christian 12-B (64.95-ac)	7700	3640
Ziegler 10 (83.18-ac)	10,400	3494
Midfield Oil Co., Samperi 1, blk 51	7500	3594
Monday Oil Co., Younse 11 (86-ac)	7200	3656
B. F. Phillips-Oils, Inc., Callum 6 (20-ac)	10,000	3524
Shell, Landers 6 (33.6-ac)	5500	3730
Stanolind, Castleberry 7 (77.44-ac)	500	3620
ANDERSON COUNTY— (Camp Hill field)—		
Gulf, Davey-Royall 3	*	5281
E. T. McCain 1	750	5171
VAN ZANDT COUNTY (Van field)—		
Humble, J. G. Luther 1-S (32-ac)	*	1260
FREESTONE COUNTY—		
Stewart & Watson, S. A. Burleson-R. S. Red 1	*	5248

*Failures; †Junked; ¶Million cu. ft. gas.

Test New Strikes

DUVAL RECENT DISCOVERIES GET PRODUCTION TESTS

WEEKLY STAFF REPORT

San Antonio.—Production tests were being made late in the week on three important discovery producers in northern Duval County. Two opened new fields, while the third established a new producing horizon in an already producing area.

Sun Oil Company and Simms Oil Company's Warden & Drought 2, slightly more than one mile southwest of the SRC field, flowed at the rate of five barrels per hour through ½-inch choke on tubing for a period of two hours before being shut in for storage. The well will be reopened shortly for a regular guage. During that period, it showed a working pressure of 65 pounds and a casing pressure of 125 pounds.

The well, located in northeastern portion of Section 151, cored sandy shale from 1570-77 feet, sand 1577-81 feet and set casing at 1568 feet. This sand is approximately 200 feet higher than the producing level of the SRC field and is classified by some as the lower Government Wells of Loma Novia horizon. Others classify it as regular Mirando zone. All are in the Jackson series.

The second field opened to be tested is Marzo Oil Company's E. R. Hagist 2, Block 8, Section 269, more than a mile northeast of the Eagle Hill field. It was standing full of oil when pumping unit was installed. The well is in the upper Government Wells sand at 2116-21 feet with casing set just above this level. Although the field has not been definitely named, it likely will be referred to as the Hagist.

After bailing down, Magnolia Petroleum Company's Duval County Ranch 2 filled 600 feet in oil. It is showing practically no pressure and is being placed on pump. The well is in sand at 1959-71 feet. This test is in the Piedra Lumbre field, Section 100, one location north of the discovery well, producing from Government Wells sand at 2139 feet. Its completion establishes the second sand for this new field out of the same number of tests drilled.

Seven Sisters field of Duval County continues to hold the spotlight of interest with more excellent Government Wells sand producers being recorded. Santa Clara Oil Company's J. F. Welder Heirs 14, Section 385, most southwesterly well in the field, flowed 43 barrels on a one-hour gauge through ¼-inch choke, registering 650 pounds tubing pressure and 1000 pounds casing pressure. The well is at a total depth of 2494 feet, casing set 2486 feet, top of sand 2473 feet. Mid-Continent Petroleum Corporation and Humble Oil & Refining Company each contributed new producers in the northern end of the field. The former's Serna 1 flowed 23¼ barrels per hour through ½-inch choke on a four-hour gauge from 2471-82 feet, while the latter's T. D. Smith 2 was a slightly larger well from 2464-78 feet. Atlantic Oil Producing Company's Welder 3 in southern portion of the field drilled to a total depth of 2515½ feet, having topped sand at 2495 feet. Casing was run to a total depth and gun perforated at 2498½-2513½ feet. The well was being completed late in the week.

Loma Novia field, flanked the Government Wells field on the east, provided a number of excellent producers during the week. The discovery of a deeper and more prolific sand just underlying the regular sand has materially aided in boosting initial flows. Several wells drilled into the regular sand and completed as small jetting wells have been deepened to take in both lenses. The result has been most encouraging. Now, the majority of the wells drill both sands on initial completion.

Continental Oil Company apparently has another producer in the making in its Driscoll field of this county. Clara Driscoll Sevier 6-A, Section 447, found sand at 3406-23 feet, upper part showing oil and gas and the lower part carrying water. It was drilled to 3435 feet and casing set through the entire section with the intention of gun perforating opposite the oil sand.

Santa Clara Oil Company's R. C. Corbitt 1, wildcat in Section 92, northeastern Duval County, cored a sand section to 2828 feet and shut down for orders. It had hard cap at 2798-2806 feet, soft sand showing oil and gas at 2806-11 feet and dry sand at 2811-28 feet.

Extended Caesar Field

Luling Oil & Gas Company completed J. T. Hudman 4-A to extend the Caesar field one location to the southwest. This long, narrow Bee County producing area continues to provide excellent wells in this direction from the main proven zone. It is flowing 210 barrels per day through ¼-inch choke from sand at 3069-75 feet. Tubing pressure was recorded at 250 pounds and casing pressure at 650 pounds.

The company has made tentative location for Hudman 5-A, trending still farther southwest. Sun Oil Company has made location and let contract for the drilling of a new test on the Borroum tract, still farther down trend.

Drilling over the Bee County district generally has shown signs of slackening until it has reached the lowest level in months. Failure to establish any new producing zones in northern Bee County and the completion of development in the already proven areas accounts for this decline. The Dirks field reported three avtice rigs. West Tuleta, including its southwest extension, had five operations and Rutledge field had only one well drilling. Dirks Brothers completed Campbell 2, in the Tuleta field, flowing 15 barrels on 3/16-inch choke from sand at 3917-22 feet. Simms Oil Company No. 4 Ray has been completed for 16.2 barrels per hour through ¼-inch choke at 3944-54 feet.

McMullen Well

Wilkerson and Lightfoot are completing H. L. Lark 6, north of the Calliham field in McMullen County, in the Jacob sand at 1042-49 feet. Late in the week it was heading about three barrels of oil per hour through the open casing and preparations were being made to run tubing. The well is in Block 113, E. W. B. Scrugham Survey, and is the first well thus far drilled in the Callihm field to show an appreciable amount of oil in the Jacob sand, some 200 feet below the field's regular horizon.

Jacob field, two miles to the north, has a number of excellent shallow producers from the lower sand, some making as high as 600 barrels per day initial flow at a maximum depth of 1000 feet.

Webb County

Magnolia Petroleum Company, principal lease holder in the 2700-foot zone of the Cole field, Webb County, continues its active development campaign. Several new producers were added during the week and additional locations announced.

Brennan-Benavides 14, Block 218, is drilling plugs on sand at 2720-32 feet. Locations have been made for Brennan-Benavides 15, Block 153, and 16 on Block 286. Benavides 9-G, Block 187, is a completion rated at eight barrels per hour through 5/16-inch choke from 2751-58 feet, while S. Benavides 3-B, Block 324, is coring for the sand.

Jack and Jim Oil Company added one producer, it being S. Benavides 1, Block 155, flowing 10 barrels per hour from 2756-72 feet.

In the Lopez field, also in Webb County, Mills Bennett is completing M. Lopez 1, Section 73. The well cored hard sand showing oil at 2196-98 feet, hard sand 2198-2203 feet and oil sand 2203-6 feet. Casing was set at 2196 feet.

24 COMPLETIONS

Houston.—There were 15 oil producers, one gas well and eight failures in the 24 completions reported in the Texas Gulf Coast for the past seven day period ending October 4, 1935. The Manvel and Tomball fields led the list in number of completions. There were six wildcats abandoned in the area.

NEW PLYMOUTH SAND

Third producing sand in field is discovered

San Antonio. — Magnolia Petroleum Company definitely opened a third sand in the Plymouth area of San Patricio County late in the week with Corpus Christi Bank and Trust Company 2, extreme south end of the field. The well, in the H. H. Hunter survey, is in sand at 5907-11 feet.

This field is rapidly developing into one of the largest and most important along the Trans-Salt Dome Region of South Texas. The majority of the work is being done by Plymouth Oil Company, with Heep Oil Corporation and its associate organization, Conroe Drilling Company, a close second. Benedum and Trees, of which Plymouth Oil Corporation is a unit, has one active rig, as does Sun Oil Company and Magnolia Petroleum Company.

Benedum and Trees' Welder 1, Section 34, west of the field, has been spudded, Conroe Drilling Company's Welder 1-G Section 47, south end of the main 5600-foot area, is drilling below surface casing.

Heep Oil Corporation completed Welder 2-F for 200 barrels per day through 5-32-inch choke from 5630 feet. Welder 5-F is drilling below 4800 feet and Welder 10-E is ready to commence operations.

Plymouth Oil Corporation completed Welder 14-C for better than 200 barrels per day through 5-32-inch choke from 5634 feet. The well showed a casing pressure of 1050 pounds and tubing pressure of 1000 pounds. The company is drilling below 5300 feet in Welder 15-C and about the same level in Welder 16-C. Welder 17-C is down 4700 feet.

Sun Oil Company is making hole below surface casing on J. M. Hunt 1, southeast of production.

Nueces County

Deep tests in the Saxet-Baldwin district of Nueces County holds chief interest. They offset the slight decline in field activity from several weeks ago when the area was undergoing the busiest period in history.

Magnolia Petroleum Company's Baldwin 2, southwest of the Baldwin field production, had reached a depth of 5636 feet and was reaming preparatory to being carried deeper.

In the Saxet field, Shell Petroleum Corporation's Flato 1 was coring below 6125 feet, while Richard and Thomas' Page Brothers 1, northwest of production, was down 5306 feet.

La Jita Corporation's Richard King Estate 1, Section 22, King gas field, was making hole just short of 6,000 feet, its contract depth. The well will have an electric formation device run and casing probably will be set to test the upper horizons. This well encountered several high pressure sands as well as a few shows of oils.

Two new producers were added in the Saxet field during the week, one by the Southern Minerals Corporation and the other by Warner-Quinlan Company of Texas. Each well gauged in excess of 500 barrels per day through 5-16-inch chake.

Refugio Completion

Hewitt and Dougherty's M. F. Lambert 20, Block 23, Hardwick survey, in the Greta field, Refugio County, is an excellent producer in the 5800-foot sand. It flowed 191.30 barrels through 3-16-inch choke in 12 hours from a total depth of 5866 feet.

Houston Oil Company completed W. J. J. Heard on the west side of the Refugio field for an initial flow of 101.40 barrels of oil in six hours through ¼-inch choke, depth being 4941 feet.

Halliburton Oil Producing Company ner of Morris and Cummings survey has plugged back D. Burton 4, deep test in the Port Lavaca field of Calhoun County, preparatory to sidetracking and drilling ahead. The well was carried to 7460 feet, at which depth a formation direction test was run. It then was plugged to 6370 feet.

Crown Central Petroleum Corporation Wilson 1 failed to make a producer in the lower sand, having drilled to 6315 feet. It has been plugged to 3300 feet for further testing.

The Texas Company's W. A. Shofner is completing at 6334-45 feet. No gauge is available, but it looks like an average well.

Smith an dMcDonald have commenced Mauritz Brothers 1, southwest cor-

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WAUKESHA ENGINES

ner of Morris and Cummings survey No. 17, second test for the new Mauritz field, Jackson County, which was opened several weeks ago by the Shell Petroleum Corporation. The well is on an 80-acre farm out lease from the Pure Oil Company. Practically the entire block is controlled by Shell Petroleum Corporation.

Barnsdall Oil Corporation and Felmont Oil Corporation made a drill stem test in J. M. Pickering in the Placedo field of Victoria County, which flowed from 4772-81 feet. The well continued to flow several minutes after the stem was being broken down. Casing has been set and the well is ready for completion. It is expected to make one of the largest wells in the field.

Smith and Gulf Production Company's Wright 1, in the western portion of the field is completing at 4750 feet.

BEXAR IS ACTIVE

San Antonio.—Shallow development being carried on in the Von Ormy district of Bexar County is expanding into a rather large area. Nearly 50 producing wells have been completed to date over an area of fully 1000 acres of spotted producing territory. The producing zone ranges from 600 to 900 feet in the Navarro series and initial production is between two and 15 barrels per well.

Nick Marosis' Joe Florey Estate 1, just west of the Von Ormy townsite is in process of completion at 672 feet, where it indicates a producer. It will extend the northern portion of the field nearly a mile south and will closely tie into the area at the south end of the field, first to be developed.

Richcul Oil Corporation, Umburn & Trawalter and Crouch & Shadrock are contributing almost a well a week apiece.

PLACEDO HEARING

Austin.—A hearing on the Placedo field in Victoria County has been set for October 11 at Austin by the Texas Railroad Commission.

At that time the commission will hear evidence on which will be based rules for the drilling, spacing, completion, and operation of wells in this field. A hearing was held during May of this year, but no rules were issued. Recent developments in the field indicate that it will be extended into a townsite. Operators have requested the new hearing to bring evidence down to date in order that proper rules may be issued and become effective before townsite drilling is a serious problem.

ISSUE OSBORNE ORDER

Austin.—The Osborne area in Wheeler County has been designated as a separate oil field in an order issued by the Texas Railroad Commission which became effective on October 1.

A daily allowable of 1000 barrels for the field was provided in the order.

Extend Samfordyce

FIELD GETS NORTHWESTERN AND EASTERN EXTENSION

San Antonio.—The prolific Samfordyce field was given another northwest extension during the week, enlarging its producing area to more than three miles on a northwest-south trend. The newest outpost producer is more than one-fourth mile from production and is carrying the proved area well into Starr County.

The well is H. J. Porter et al's Garcia Land and Cattle Company 1, east central portion of Block 6, out of the west one half of Porcion 100. It gauged three barrels of oil per hour from sand at 2809-15 feet, test being through ⅛-inch choke. Tubing pressure was 175 pounds and casing pressure 325 pounds.

The above gauge is not a fair estimate of the possibilities of the well. Phillips Petroleum Corporation and Barnsdall Oil Corporation's Yturri 1, nearest producer to the southeast showed a like amount of production on a small choke, but opened to ½-inch choke, it flowed 139 barrels per hour. Open flow, through tubing, estimates ranged well in excess of 5000 barrels, although no such gauge was made. This action was duplicated by other wells gauged in the field.

It is interesting to note that practically every well drilled on a high point on the structure was carefully handled, only a small amount of sand being taken in, sometimes as little as six inches. Wells have been produced on small chokes and pressures controlled to the lowest point possible. The field, as a result, may be expected to show a tremendous per acre yield, considering depth and type formation.

An eastern extension, this one in Hidalgo County, also was provided during the week. Harrison and D. D. Oil Company's Mrs. Lula George 4, Tract 13, Porcion 41, flowed 40 barrels per day through a 3/32-inch choke from 2761-65 feet. Tubing pressure was 160 pounds and casing pressure 315 pounds.

North of the east end of production, Mundy and Stevens' F. B. Guerra 1, Tract 12, Porcion 41, is waiting on cement at a total depth of 3030 feet, casing set at 2990 feet. If the well fails to produce at this level, it will be plugged back and gun perforated in the regular Samfordyce sand. A successful completion will materially widen the field.

Union Sulphur Company was perforating American Rio Grande Land and Irrigation Company 5, just northwest of the Mercedes field, Hidalgo County, discovery well. Casing is set to a total depth of 7529 feet, but exact depth of completion has not been announced. Well No. 4, 1½ miles to the southwest, was abandoned at 7757 feet after gun perforating at five different levels above this level failed to yield production. Same company is rigging up for a sixth test in the northwest corner of Tract 2358, Block 49, 4500 feet northeast of production.

Gulf States Oil Company is rigging up for Delta Orchards 1, Lot 2, Block 73, Mestenas Grant, about one mile south of the Mestenas field discovery gas well. It is the second operation for that area.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
F. Wilson 1, M. C. Callaham 1, 330 ft nl and wl 224-ac tr, A. Mayes sur	*	2572
BEE COUNTY—		
Dirks Bros., P. L. Campbell 2, B&B sur (W. Tuleta)	500	3922
Luling O&G Co., J. T. Hudman 4-A, Chas. Baker sur (Caesar)	300	3075
Simms Oil Co., G. A. Ray 4, Blanchard sur (W. Tuleta)	500	3954
The Texas Co., S. E. Young 7, G. Young sur (Dirks)	750	3907
BEXAR COUNTY—		
Fay T. Chew, Jones 5, sec 9, Jacinto Pena sur (Adkins)	6	695
Crouch & Shadrock, J. Barrigan 3, Simpson sur No. 59 (Von Ormy)	4	750
C. A. Ingersoll et al, L. Mann 1, 180 ft sl, 1000 ft el 60-ac tr, J. Christoper sur	*	80
C. J. LeComte, Mayfield Park 1	*	362
CALHOUN COUNTY—		
Steinberger Pet Corp, A. Hartman 1, M. Sanches sur (Port Lavaca)	350	6240
DUVAL COUNTY—		
Rodney DeLange, Bishop Cattle Co. 2, se se sec 76 (Loma Novia)	650	2712
Duval Oil Corp., L. B. Moody 4, ne sec 76, (Loma Novia)	650	2694
Highland Oil Co., Wm. Hubbard 1-B, ne se sec 75 (Loma Novia)	50	2715
Humble, T. D. Smith 2, sec 382 (Seven Sisters)	650	2478
Mid-Continent Pet Corp., R. Serna Jr 1, nw sec 384 (Seven Sisters)	625	2482
Parr Oil Co., T. J. McDowell 1, se nw ne sec 62 (Loma Novia)	*	2571
Santa Clara Oil Co., Clara Driscoll Seiver 1, sec 7, ab 605, LaGloria ranch, center of sec	*	4018
J. F. Welder Hrs 14, se nw sec 385 (Seven Sisters)	1400	2494
Stieren Oil Corp., Wright et al 7, sec 72 (Loma Novia)	250	2710
Sun Oil Co. & Simms Oil Co., Warden & Drought 2, 1500 ft el, 1000 ft nl of sec 151, opens new field	150	1581
Texas Co., M. Vela 9, sec 42 (Loma Novia)	600	2671
FALLS COUNTY—		
Adams et al, Walker 1, Pedro Garza sur	*	870
C. W. Gould, W. B. Landrum 1, 1100 ft nwl, 150 ft nel of 1131-ac tr, J. A. Manchaca sur	*	lcn.
GUADALUPE COUNTY—		
Code et al, Hicks 1, 150 ft sl, 320 ft el of 189-ac tr, E. Santos Coy sur	*	1965
A. D. Locke, N. S. Lowman 1, 210 ft sel and swl of 200-ac tr, Cyrus Campbell League	*	1810
Minerals Corp of Texas, Allen Phillips 1, 162 ft nl, 900 ft el of 124-ac tr, Cortine sur	*	868
HIDALGO COUNTY—		
Harrison & D. D. Oil Co., Mrs. L. George 4, tr 13, por 41 (Samfordyce)	750	2765
Union Sulphur Co., ARG & I Co. 4, lot 1, blk 99, N. Capisallo dist (Mercedes)	*	7757

Company, Well and Location	Init. Prod. Bbls.	Depth
KLEBERG COUNTY—		
Fidelity Exploration Synd, P. O'Henry, lot 2, sec 49, KT & I sur, (Kingsville)	*	3027
McMULLEN COUNTY—		
Wilkerson & Lightfoot, H. L. Lark 6, blk 113, Lark sub, E.W.B. Scrugham sur (Calliham)	72	1049
MEDINA COUNTY—		
Joe Deupree, Hugo Batot 2, John Ball sur No. 1478	*	405
NUECES COUNTY—		
Southern Minerals, A. Ocker 6, sec 8, Page Lands (Saxet)	600	4875
Sally Page 2, sec 586 (Saxet)	750	4876
Warner Quinlan Co of Texas, T. H. Isensee 1, blk 1, sec 313, GC&SF sur (Saxet)	750	4866
REFUGIO COUNTY—		
Hewitt & Dougherty, M. F. Lambert 20, blk 23, C. A. Hardwick sur (Greta)	500	5866
Houston Oil Co., Heard 19, Refugio Town tracts (Refugio)	525	4941
SAN PATRICIO COUNTY—		
Heep Oil Corp., Welder 2-F, sec 46 (Plymouth)	500	5630
Plymouth Oil Co., Welder 10-C, sec 48 (Plymouth)	450	5648
Welder 12-C, sec 49 (Plymouth)	500	5648
Welder 14-C, sec 48 (Plymouth)	500	5634
STARR COUNTY—		
Pedernal Oil Co., Hicks & Phelps 1, 150 ft sel and nel nw¼ of tr, Pedernal gr, owdd, old td 1617 ft	*	2240
H. J. Porter et al, Garcia Cattle Co. 1, blk 6, por 100 (Samfordyce)	1500	2815
Sious Oil Co. & Heard, Goodrich 3, blk 5, tr 5, por 81 (Rio Grande City)	50	1335
TRAVIS COUNTY—		
Paul Crawford et al, Stemholm 1, J. B. Kempe sur (Manda)	*	1002
WEBB COUNTY—		
Mills Bennett, J. Lopez 5, tr 10-B, sec 73 (Lopez)	500	2153
Jack & Jim Oil Co., S. Benavides 1, blk 155, Arispe gr (Cole)	310	2772
Magnolia, Benavides 9-G, blk 187, Arispe gr (Cole)	350	2758
South Texas Oil Co, Laurel 1-A, blk 2, sec 269 (Laurel)	*	3165

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANAHUAC—		
Humble, Middleton 5	696	7085
Middleton 6	504	7144
BOLING—		
Texas Co., Taylor A-13	75	3335
DAMON MOUND—		
Wisdom Oil Co., Intercoastal 3	¶½	3286
HASTINGS—		
Stanolind	288	6080
HULL—		
Republic Prod. Co., Dolbear 157	250	2318
MANVEL—		
J. Simmons, Martens 1	192	4015
Texas Co., Houston Oil Field Association 18	39	4436
Windsor Oil Co., O. C. Colby 3	122	5160
MYKAWA—		
West Prod. Co., Forbes 1, (wo)	475	4545
Platt 1	285	4402
PIERCE JUNCTION—		
Holland Oil Co., Missouri Pacific 1	*	4035
RACCOON BEND—		
Humble, Grawunder C-5	290	4135
THOMPSON—		
Humble, Gubbles B-2	87	5374
TOMBALL—		
Amerada-Stanolind, Hillegeist 1	500	5578
Humble, Michel B-1	595	5565
Spell 1	*	5680
Shell, Theis 3	508	5631
ANGELINA COUNTY—		
Howze Oil Co., Fenely 1, B. Mitchell sur	*	2006
D. L. Le Blanc, Carter Lumber Co., 1, 6 mi s of Huntington	*	2186
AUSTIN COUNTY—		
Deering & Kayser, McClenton 1, se of Bellville, T. Bell sur	*	4864
J. S. Wheelis, Knolle 1, Industry prospect, Pettus sur	*	3625
MONTGOMERY COUNTY—		
Turnbull & Irwin, Carr 1, sw of Tamina, C. Allen sur	*	5953
POLK COUNTY—		
Gulf, Trinity Lumber Co. 5, nwc of county, O. Peterson sur	*	3588

*Failures; †Junked; ¶Million cu. ft. gas.

Apparent Failures

ANAHUAC FIELD MAY PROVE SMALLER THAN ANTICIPATED

WEEKLY STAFF REPORT

Houston.—Woodley Petroleum Company's A. G. Blanke 1, 1¾ miles northeast of the Anahuac field, Chambers County, is drilling below 6643 feet after picking up the Discorbis at 6260 feet. As compared to the Anahuac field it is running over 200 feet lower. This indicates that the area which the wildcat is drilling will prove disappointing.

Should this well be a dry hole the Anahuac field may not be as great as anticipated by many. Gulf Production Company's Knowles 1, east offset to R. A. Mason & Glenn H. McCarthy's R. M. Mason 1, which extended the field three miles in the northward direction some time ago, was down to 7785 feet having no shows of oil. This well is on the down through side of a fault and has failed to pick up the producing sands found in wells to the west.

Sun Oil Company's White 2, west offset to White 1, was preparing to complete at the end of the week. Seven-inch casing has been set at 7030 feet. The bottom of the hole is 7082 feet. A gas sand was found below 6900 feet. The well topped the Marginulina at 6451 feet and is the highest well in the north Anahuac field. Sun Oil Company has made location for White 3, it is 933 feet west of White 2, in the McGhey Survey.

Humble Oil & Refining Company, R. A Mason & Glenn H. McCarthy's White 2, north offset to Sun Oil Company's White 2, was drilling below 6892 feet in shale at the end of the week and should pick up th gas and oil sand the coming week. The well topped the

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Discorbis at 5848 feet and the Heterostegina at 6159 feet.

Humble Oil & Refining Company completed two wells at Anahuac the past week. Middleton 6, extended the field to the southwest. The well is located southwest of Middleton 2. It came in for 21 barrels per hour. The well was drilled to 7144 feet in salt water sand finding the top of the salt water sand at 7135 feet. The top of the oil sand was found at 7119 feet. Seven-inch casing was set to bottom and the casing was perforated from 7118 to 8126 feet. The well came in for 21 barrels per hour through a quarter inch choke with 800 pounds pressure on the tubing and 1100 pounds on the casing.

Humble Oil & Refining Company's Middleton 5, west offset to Engles 1, made 26 barrels per hour from 7085 feet. Top of the oil sand was found at 7036 feet and the gas sand was found at 6908 feet. Seven inch casing was set at 7036 feet. The well came in for 26 barrels per hour through a quarter inch choke with a tubing pressure of 1025 pounds; casing pressure 2600 pounds. Humble Oil & Refining Company is drilling on four additional wells in the field.

Ten miles south of the town of Anahuac an exciting lease play is in progress with several major and independent operators leasing acreage. Humble Oil & Refining Company and Sun Oil Company have considerable acreage in the area.

Jefferson County

Sun Oil Company has set 8210 feet of 9 5-8 inch casing in Hebert Broussard 1, on the Labelle prospect in B. Blackmon Survey. This string of casing is one of the longest strings of 9 5-8-inch pipe to be set on the Texas Gulf Coast. The operators will cement the casing and will make a production test the coming week. The hole is bottomed at 8265 feet. Top of the sand was found at 8237 feet.

In the Winnie area common corners of Liberty, Chambers and Jefferson counties, Glenn H. McCarthy is reported to have taken 5500 acres. It is reported that a well will be drilled in the area after the deal is consumated.

Sun Oil Company is reported to have taken over 4500 acres in the Wm. McFardand Survey on commercial leases. At one time this was reported as a geophysical option.

Turnbull & Irwin's Carr 1, in the Tamina area, C. Allen Survey was abandoned during the past week at 5953 feet after coring salt water in the Cockfield found at 5556 feet.

In the Conroe field, Montgomery County, there are now 61 salt water wells. There are three of the salt water wells standing and the remaining 59 wells are making as much as 51.38 per-

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Plug Back Well

DEEP VAN VLECK TEST HAS SALT WATER AT 7940 FEET

Houston.—Skelly Oil Company's Cobb 3, 2235 feet northeast of the discovery well, M Cummings Survey, Van Vleck or Bay City field, Matagorda County, was waiting on cement to set at 7635 feet at the end of the week after making a drill stem test.

On a drill stem test from 7935 to 7940 feet the well flowed gas, oil and salt water for 37 minutes of the 40-minute test. At the end of 37 minutes the well was flowing 80 percent salt water. The test was made through quarter-inch choke on top and bottom. The well was then plugged back to 7635 feet to make another test.

Skelly Oil Company is preparing to work over Cobb B-1, the discovery well for the field. It will be drilled deeper to test new sands found in Cobb 3.

Hastings Field

Stanolind Oil & Gas Company's Sneed 5, was completed in the Hastings field, Brazoria County, during the past week at 6080 feet. It made 12 barrels per hour through a quarter-inch choke with a tubing pressure of 725 pounds; casing pressure 675 pounds.

Humble Oil & Refining Company's Cannon 1, northwest extension test was being washed in at the end of the week. The bottom of the hole is 6100 feet. This well will extend the producing limits an additional 2000 feet in the northwest direction.

In Harris County on the north side of the South Houston field, The Texas Company is reported to have paid $50 per acre for 200 acres. This acreage is north of Stanolind Oil & Gas Company Meadowbrook 1. The Battle Ground area of Harris County, is receiving its share of lease play. Acreage is being sold from $50 to $75 per acre. H. C. Cockburn is rigging up on Houston Ship Channel 1 in the A. McCormick survey.

A. C. Hill has made two wildcat locations in the Sheldon area of Harris County. Swilley 1-A, is located 5424 varas east of the west line and 1960 varas north of the south line of Victor Blanco Survey in the center of a 200-acre tract or 365 varas from the north line and 773 varas from the east and west line of lease. Swilley B-2, is located in the Victor Blanco Survey and 6141 varas east of the west line and 1960 varas north of the south line of Survey. It is in the center of a 200 acre lease or 360 varas from the north line and 773 varas from the east line of lease.

The Sheldon area has been active for some time and The Texas Company owned a large block in the area and drilled several shallow holes but none deep enough to test the new prospect. A. C. Hill has sold spreads to several major oil companies. Shell Petroleum Corporation Company has a large block of acreage in this area and so does Humble Oil & Refining Company and Stanolind Oil & Gas Company in the Crosby area.

Ft. Bend County

Texas Gulf Producing Company has made location for a wildcat location on the North Richmond prospect in the area where Phillips Petroleum Company drilled Holmes 1, which was abandoned 7015 feet some time ago. C. B. Bunte had a location for a wildcat in this area but it was abandoned. The new test is Mrs. K. B. Winston 1, located 1496 feet east of the west line and 2381 feet north of the south line of a 350.66-acre tract on a 43.5-acre tract or 14,600 feet south of the north line and 1496 feet east of the west line of S. Isaacs Survey.

J. S. Wheelis' Knolle 1, on the Industry prospect, Pettus Survey, Austin County, was completed as a dry hole at 3625 feet after coring several sands which failed to show oil. The well was drilled on surface geology and at one time was considered an excellent prospect.

Deering & Kayser's McClinton 1, southeast of Bellville, Thos. Bell Survey, was also completed as a dry hole at 4864 feet.

It is reported H. C. Cockburn is preparing to drill a Cockfield test south of the town of Sheppard. A tentative location has been made 6000 feet from the south line and 1000 feet from the east line of the C. Smith Survey. Humble Oil & Refining Company and Shell Petroleum Corporation Company hold acreage in the above area.

cent. The daily average salt water produced in the field is around 1700 barrels. The Conroe sand produces around 180 barrels daily while the upper Cockfield sand produces 1520 barrels. The total accumulative salt water production in the field through October 1, 1935, is around 477,765 barrels.

There are only four rigs now operating in the field. Humble Oil & Refining Company has one rig operating, Sun Oil Company, two and Moran Oil Corporation and Plummer one rig.

TEXAS STARTS DROP

Austin.—Permits for the drilling of 206 new wells in Texas were approved by the Texas Railroad Commission last week, 200 less than were allowed the week before.

The marked decline resulted from a drop in the East Texas field, where permits for 31 wells were approved, as compared with 214 for the previous week. There were 15 in Gregg County, eight in Rusk County, seven in Smith County and one in Upshur County.

Southwest Texas showed some increase with 45 permits, including 13 in Duval County and 10 in Hidalgo County. In the adjacent Gulf Coast district 37 locations were reported.

The North Texas district reported 33 new permits, including 11 in Wichita County. East Central Texas filed 12 and there were 11 in West Central Texas.

Important Finds

EXTEND ENGLISH BAYOU AND GILLIS: NEW IBERIA SAND

Lake Charles.—There were several developments of interest and importance in the Louisiana Gulf Coast the past week. Among these was the extension of two fields, English Bayou and Gillis, both in Calcasieu Parish, and the finding of a new producing sand in the new Iberia field.

The English Bayou field was extended over 1200 feet when Fohs Oil Company's Castle 6 came in for 650 barrels per day from 7102 feet. Top of the sand, showing oil, was found at 6976 feet. Seven-inch casing was set to bottom and the casing was perforated with 10 holes from 7092 to 7102 feet, total depth. A drill stem test was tried and the well blew out, but was killed and brought in through a quarter-inch choke with a tubing pressure of 1100 pounds and casing pressure of 400 pounds.

The well is located 1500 feet south of Castle 5, and 1250 feet southeast of Wasey 1. It is 300 feet south and 700 feet east of the NWc of the SW¼ SW¼ of Section 13-9s-8w.

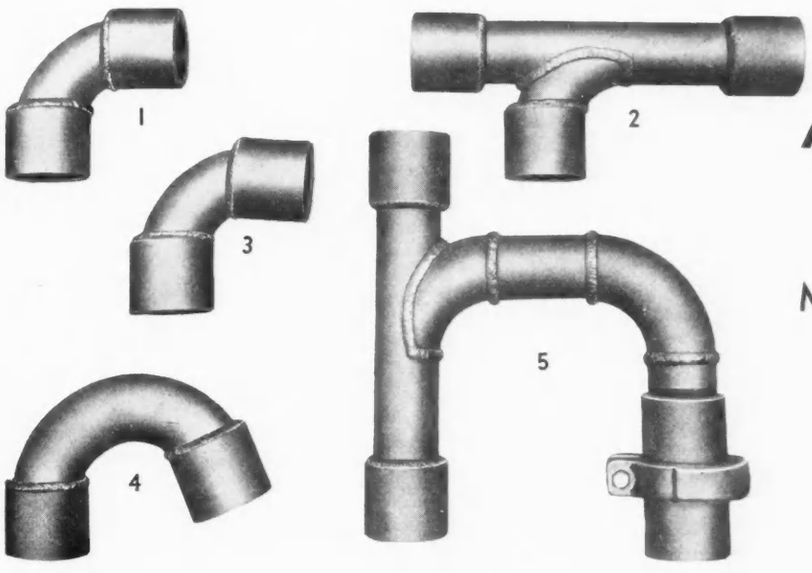
The same operator's Airhart 1, Section 14-9s-8w, quarter mile west of Wasey 1, was plugged back from 9246 feet to 7060 feet and will test the upper sands. The well was drilled to 9246 feet and blew out from 9242 to 9246 feet, where it made gas and a spray of oil to open up a new producing sand for the English Bayou field.

Fohs Oil Company also is drilling at 4256 feet on Castle 7, which is located between Castle 5 and 6.

Gillis Field Extended

The Gillis field, Calcasieu Parish, which is one mile north of the English Bayou field, was extended 750 feet northwest when Union Sulphur Company's State 8 came in for 560 barrels per day through a 16/64-inch choke from 6744 to 6763 feet with a tubing pressure of 975 pounds. The oil was 34.9 gravity. The well is located 750 feet north of Barbe 3 and 750 feet northwest of the discovery well in Section 11-9s-8w.

A new producing sand has evidently been found in the Gillis field. Union



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HOUSTON, TEXAS

Sulphur Company's Castle 12, Section 12-9s-8w, was preparing to test sands from 7535 to 7545 feet. The well was drilled to 7694 feet and a sand was found from 7525 to 7563 feet. The casing will be perforated from 7535 to 7545 feet. If it proves a commercial producer it will be a new sand for the Gillis field.

Union Sulphur Company's Powell Lumber Company 3, 2382 feet south and 2901 feet east of the northwest corner of Section 12-9s-8w, was abandoned after making location and building foundation. The company has made location for Powell Lumber Company 4, 585 feet south and 1621 feet east of the northwest corner of Section 12-9s-8w.

Cameron Wildcat Show

Magnolia Petroleum Company's Broussard 1, Willow Lake prospect, Cameron Parish, was drilling ahead below 8349 feet. The well had a good showing of oil from 8146 to 8149 feet. The sand was soft and grey. From 8050 to 8052 feet the operators had eight inches of sand which showed oil and the balance was salt water sand.

The well is located east of East Hackberry and across the Calcasieu Lake in Section 13-12s-9w. The area was worked with reflection seismograph by Magnolia Petroleum Company in 1935. The Magnolia Petroleum Company took 14,000 acres in this area for geophysical work.

New Producing Sand

Another new deep sand was discovered in the New Iberia field, Iberia Parish, during the past week when The Texas Company's Hanzen B-1 showed 1464 feet of oil, 100 feet of sand and 40 feet of mud through ¼-inch choke on a 12-minute drill stem test. Casing was being run at the end of the week and a production test will be made. The oil sand was topped at 5385 feet and at 5401 feet the well was still in the sand. The test showed no water. The well also had showings of oil from 4750 to 4771 feet and from 4790 to 4811 feet. An electrical logging device was run and showed good saturation.

This is the second new deep sand found in the field within the past three weeks. Canal Oil Company's Bernard 4 encountered a new sand at 4500 feet and made 816 barrels per day for three days and then sanded up. The operators were fishing for tubing at the end of the week.

The Texas Company's Hanzen B-1 is located 1418 feet northeast along the most westerly corner of the lease line thence 1575 feet east at right angles in Section 54-12s-7e.

Pan American Producing Company is reported to be going to start a wildcat on the Hanzen block at Mud Lake the coming week. The operators have been working the area with geophysical instruments for the past two or three weeks. The area is reported to have over 200 feet of closure. The 6500-foot well will be located in Section 32-14s-11w. This well is the first test to be drilled by Pan American Producing Company. The same operators have a block of acreage in St. Landry Parish, near the Port Barre field.

Roanoke Field

In the Roanoke field, Jefferson Davis Parish, Glassel et al's Louisiana Irrigation Milling Company 1-A, Section 2-9s-4w, was completed as a producer from 8689 feet. The well made 390 barrels per day through a quarter-inch choke with a tubing pressure of 320 pounds.

Humble Oil & Refining Company's Thomas 1, Section 11-9s-4w, has been plugged back to 7000 feet and is waiting on cement to set. The well was drilled originally to 10,583 feet where a fishing job was encountered. The hole was then plugged back to 8675 feet and seven-inch casing was set at 8658 feet. Two and half inch tubing was hung at 8540 feet and the well came in making a large volume of gas through a three-eighths inch choke. Tubing pressure was 3000 pounds; casing pressure 2926 pounds. The well was then plugged back to 7000 feet to test another sand.

Tepetate Field

In the Tepetate field, Acadia Parish, Continental Oil Company was drilling close to the producing sands in its three wells. Homeseeker Development Company 1, west of the discovery well was drilling at 7697 feet, Klump 1 was down to 7858 feet and Welsh 1 was at 5275 feet. All the wells were drilling in shale. The wells should be down to the producing sand the coming week. The sand is found below 8300 feet.

St. Landry Parish

In St. Landry Parish, Pan American Producing Company is preparing to make location on its block which it took from Harvey Weir. The company is now working the area with reflection seismograph. The well is reported to be drilled in Section 4-6s-5e. This is the second block taken by the Pan American Producing Company in the Louisiana Gulf Coast. Pete Daley et al are also going to drill a well in this area and in the same section in which Pan American Producing Company is going to drill. It will be just east of Pan American Producing Company's well. The tract which the latter operator is going to drill has produced approximately 30,000 barrels of oil before turning to water.

Around the Sunset prospect in St. Landry Parish an exciting lease play is now in progress. The play is two miles northeast of the Bosco field and it is reported a "high" has been found. Several of the major oil companies are now active in the area.

Assumption Parish

It is reported that The California Company purchased the Simms holdings in the Louisiana Gulf Coast which includes several hundred thousand acres. Some of the acreage extending out into the Gulf of Mexico. The reported consideration was over $1,000,000.

Shell Petroleum Corporation is reported to have closed a deal for 4650 acres to the southwest of its block and in Section 65-12s-14e, Assumption Parish. This block is to the south of Donaldsonville which Shell Petroleum Corporation has a large prospect. The operators have been working in the area for the past six months getting the block into shape. In Ascension Parish, Humble Oil & Refining Company are curing titles on its block at Prairieville in 9s-3e.

A new Orleans operator has made a deal with Humble Oil & Refining Company to drill a well on the company's block in township 1s-2w and 3w. The New Orleans operator has leased several additional thousand acres and will start the well by February 1, 1936.

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CAMERON MEADOWS—		
Magnolia, Cameron Meadows 14	500	4356
EDGERLY—		
Emerson Oil Co., Hunter 1	40	3489
ENGLISH BAYOU—		
Fohs Oil Co., Castle 6	650	7102
GILLIS—		
Union Sulphur Co., Powell Lbr. Co. 3	*	lcn.
State 8	560	6763
ROANOKE—		
Glassel et al, Louisiana Irrigation Milling Co. 1-A	390	8689

*Failures; †Junked; ¶Million cu. ft. gas.

SIX COMPLETIONS

Lake Charles.—There is now a total of 668 producing wells scattered along the Louisiana Gulf Coast from the 35 fields. The producing wells are making approximately 120,185 barrels per day. The Leesville field, La Fourche Parish, has the most number of producing wells with 69, which produces around 13,065 barrels daily. The Lake Hermitage, Garden Island Bay, Four Isle, Lake Pelto and Tepetate field only have one producing well.

For the past seven-day period there were six wells completed in the area and of that amount five resulted in producing wells with an initial production of 2140 barrels per day. The remaining completion was a failure.

LOUISIANA PERMITS

Shreveport.—Only seven drilling permits were issued last week by the minerals division, Louisiana Conservation Commission, as compared to 34 drilling permits issued for the preceding week.

The seven tests authorized last week were divided between North and South Louisiana as follows: North Louisiana —DeSoto Parish, one; Ouachita Parish, two; and Union Parish, one. South Louisiana—Ascension Parish, one, and Iberia Parish, two.

The week before the 34 drilling permits were divided between North and South Louisiana as follows: North Louisiana — Caddo, seven; Ouachita, two; Sabine, three, and Union, one; South Louisiana—Acadia, one; Calcasieu, three; Cameron, three; Iberia, six; Jefferson Davis, two; La Fourche, two; Plaquemines, two; St. Landry, one, and St. Tammany, one.

LEO RANNEY, independent producer, formerly residing at Massillon, Ohio, but recently moved to Canton, Ohio, is touring Europe. The latest communication from him was at Lisbon, Portugal.

Add Two at Rodessa

WEST SIDE WELL MAKES CLEAN OIL, WATER SHOWS IN EAST

WEEKLY STAFF REPORT

Shreveport, La.—The Rodessa field added its fifth and sixth oil producers during the last week, one being in the eastern part of the field where small percentages of salt water and basic sediment have appeared with the oil, and the other, completed Thursday, October 3, in the west part of the field, one fourth-mile east of the discovery oil well of the field, United Gas Public Service Company's I. L. Young 1, SE SE 21-23n-16w. Neither of the wells in the west part of the field has shown any water.

In the west part of the field United Gas Public Service Company, Thursday, completed William Bremer Unit 1, SE NW SW 22-23n-16w, at 6008 feet, the last four feet being black shale; elevation is 211 feet. This well Thursday flowed at the rate of 132 barrels per hour through half-inch choke on tubing, and 213 barrels per hour through three quarter-inch choke on tubing, casing pressure being 750 pounds and pressure on tubing 850 pounds. The oil, entirely free of basic sediment and water, was 44.4 gravity. The oil-gas ratio was 850 cubic feet per barrel of oil, the lowest gas ratio of any well in the field. Five and three quarter-inch casing was cemented at 5935 feet.

Absence of salt water in this well which went to sub-sea depth of 5797 feet, seven feet below the tentative salt water level as determined in the east part of the field where the salt water is believed by some to be coming from a salt water lens above the producing horizon. If this theory is correct, apparently this lens has been pinched out in the west part of the field.

Fifth Well Cuts

The fifth well of the field, in the eastern part of the oil producing area, was United Gas Public Service Company's Thomas Unit 1, NE NW NW 23-23n-16w, completed at 6039 feet; seven-inch OD casing was cemented at 5952 feet. This well made 740 barrels of oil in the first 15 hours through one-inch choke on tubing of which three to five percent was salt water. The well later was placed on half-inch choke on casing and was allowed to produce at the rate of 50 barrels of oil per hour. On the first 15-hour gauge in which the half-inch choke was on tubing, the tubing pressure was 1250 pounds and casing pressure, 1750 pounds. A 30-minute test on three quarter choke on tubing showed an hourly flow of 85 barrels with 850 pounds tubing pressure and 1700 pounds casing pressure. Gas production on the half-inch choke on tubing was estimated at four to five million cubic feet daily and about twice that on the three quarter-inch choke on tubing. This well was completed at 5820 feet sub-sea depth, 40 feet lower sub-sea than Haynes Production Company's Lawton 1, Section 14-23n-16w, the first oil well in the east part of the field. Top of anhydrite was 4784 feet, sub-sea, four feet lower on this contact than United Gas Public Service Company's Young 1, SE SE 21-23n-16w, discovery well of the field.

During the last week, Arkansas-Louisiana Gas Company's J. S. Teamer 1, SW SE SW 13-23n-16w, three fourths of a mile southeast of nearest oil production, and one mile northeast of nearest gas production was completed at 6105 feet, making a heavy spray of distillate with a gas production of 92,044,000 cubic feet daily with rock pressure estimated at 2400 pounds.

Pelican Oil & Gasoline Company's Sexton 1, Section 14-23n-16w, during the last week was deepened to 6068 feet, after flowing 406 barrels of distillate of 51 gravity in 24 hours through one-inch choke on tubing and for a short time showed some increase in yield of oil but later dropped back to about the same production as before deepening.

Production Gauge

Gauges made last week of oil producers in the field showed the following for a 24-hour period:

United Gas Public Service Company's Young 1, produced through choke with 1900 pounds casing and 1750 tubing pressure, made 1880 barrels of 47.9 gravity oil; choke 43/64-inch. Pipe line run 1681 barrels.

Haynes Production Company's Lawton 1, produced 1832 barrels of oil through 12/64-inch choke on tubing with 2000 pounds on casing and 600 pounds tubing pressure; gravity averaged 46 degrees. Pipe line run 1565 barrels.

O'Brien Brothers' Rodessa Oil & Land Company 1, produced 1960 barrels of 45 gravity oil, three percent water and one percent basic sediment. Casing pressure 1200 and tubing pressure 690 pounds. Pipe line run 1463 barrels.

United Gas Public Service Company's Rodessa Oil & Land Company 1, SE NE 15-23n-16w, a west offset to O'Brien Brothers' Rodessa Oil & Land Company 1, Thursday drilled plug in 5¾-inch casing cemented at 5965 feet and was ready for testing at total depth of 6014 feet.

Seven locations were announced in Rodessa last week, one being across the line in Cass County. The latter location is United Production Company's Thurman Unit 1, NEc John Coleman Survey, on a 40-acre tract. Those in Caddo Parish are: Arkansas-Louisiana Gas Company's Rodessa Oil & Land Company 4, NW NE 23-23n-16w, an east offset to Thomas 1, recent oil completion; Danciger Oil & Refining Company's Willis 1, Lot 5, Block 7, northwest part of Rodessa townsite, Section 23-23n-16w; W. M. Layton, L. S. Tyson 1380 feet west and 325 feet north center 22-23n-16w; McAlester Fuel Company, Noah Tyson Heirs 1, 150 feet north and 350 feet west center 22-23n-16w; and Monahan Oil Company's Comegys 1, 330 feet west and 1650 feet north SEc 10-23n-16w; and Comegys 2, 330 feet west and 2290 feet north SEc 10-23n-16w.

Rodessa Drilling Report

Arkansas-Louisiana Gas Co.'s Rodessa O&L Co. 3, se se 22-23n-16w, dr 4646 feet shale; Rodessa O&L Co. 4, nw ne 23-23n-16w, lcn.

Eastern Texas Prod. C&D C. Richardson's Sch. Board 1, swc blk 25, 23-23n-16w, dr 5361 ft anhydrite.

Haynes Prod. Co.'s W. B. Lawton 2, se nw sw 14-23n-16w, dr 5080 ft anhydrite; W. B. Lawton 3, nw se 14-23n-16w, rur. H. Otwell 1, se se 15-23n-16w, pb to 6010 ft wocs old td 6081 ft; H. Otwell 2, sw sw 14-23n-16w, rur.

Sexton 1 cent. 14-23n-16w, dr. 4938 ft. shale and lime.

Will Hall, Tr's Willis 1, lot 7, 23-23n-16w, dk.

Lion Oil & Refining Co.'s J. M. Wynn 1, ne 9-23n-15w, rur.

R. W. Norton's Caddo Levee Bd 1, se ne 21-23n-16w, top saturated lime 5944 ft, coring 5984 ft. Tyson 1, nw nw 13-23n-16w, dr 3500 ft red beds. Foscue 1, ne se 20-23n-16w, dr 3429 ft shale & shells.

M. H. Marrs et al's Hunter 1, se nw sw 13-23n-16w, mim.

United Gas Public Service Co.'s Rodessa O&L Co. 1, se ne 15-23n-16w, dr plug in csg cemtd 5965 ft td 6014 ft; Rodessa O&L Co. 2, ne ne 22-23n-16w, dr 5309 ft anhydrite; G. Gibson Est. 1, se sw se 15-23n-16w, dr 5958 ft lime.

Grady Vaughan's Comegys 1, se se 10-23n-16w, dr 2390 ft chalk; Derryberry 1, sw ne nw 14-23n-16w, dr 800 ft shale and boulders.

LOUISIANA LEASING

Rodessa rush off but interest is widespread

Shreveport.—Although leasing on the extreme ends of the "Rodessa trend" in East Texas and South Arkansas, as well as in North Louisiana has somewhat subsided, some activity still continues in Marion County and Cass County, Texas, and in border counties of South Arkansas.

Panola County Test Starts

On a 5,000-acre block assembled three miles northeast of Carthage, Panola County, Modisette and Jolley of Shreveport, last week erected derrick for the first of two tests, one to 3,500 and the other to 5,500 feet. The first test is Loyd Thompson 1, D. McDonald Survey. It has not yet been decided whether this will be the 3,500 foot or 5,500 foot test.

Danciger Oil & Refiining Company recently completed a 10,000-acre block in Panola County, centering in the William G. Booker Survey.

In the northeast part of Marion County, The Texas Company recently had a seismograph crew at work and southeast of the village of Lodi, Cass County, Phillips Petroleum Company had a shooting crew at work. Geophysical Service also had a crew work-

ing in the vicinity of Lodi. United Gas Public Service Company has a geophysical unit working near Kildare and Gulf Refining Company's seismograph crew was working along the Cass County-Caddo Parish line.

Some geophysical work is still going on in Columbia and La Fayette Counties, South Arkansas, where there is still considerable leasing under way. In Columbia County, Standard Oil Company of Louisiana, has taken a 4,500-acre block extending over an area six miles east by two miles wide in township 18 south, range 22 west. Magnolia Petroleum Company has leased slightly over 1,000 acres in townships 17 and 18 south, ranges 22 and 23 west. Shell Petroleum Corporation has leased over 600 acres in township 20 south, range 22 west.

Louisiana Leasing Widespread

More leasing activity has been in evidence in North Louisiana in recent weeks since the discovery of oil in the Glen Rose at 6,000 feet in the Rodessa field than has been seen in many months. This leasing is not confined solely to the "Rodessa trend" but is reflected over practically the entire Sabine Uplift, along its flanks, and in the North Louisiana Basin between the Sabine Uplift and the Monroe Uplift. Companies have checkerboarded a large area so that the assembly of a solid block of acreage where there is evidence of likely structural conditions, especially in the Glen Rose, is almost a thing of the past.

Plans are under way for a 5,000-foot test to the upper Glen Rose for a horizon above the anhydrite, in the center of the old Zwolle east field in Sabine Parish. The highest test structurally drilled in the Zwolle field was A. H. Tarver's Baker 1, NWc NW NE 36-8n-12w, Sabine Parish, which was taken to 4200 feet. With elevation of 347.58 feet, this test logged top of the Zwolle marl at sub-sea depth of 1861 feet, and logged the Washita at 3580 feet.

The North Louisiana Basin and the east part of the Sabine Uplift is the scene of additional leasing. Emmett White recently assembled 12 solid sections centering in Section 15-16n-5w, Bienville Parish. In the same parish McDonald and associates of Ringgold, Louisiana, assembled 5,000 acres in township 15 north, range 10 west.

A deep test is reported planned in township 16 north, range 10 west, near Lake Bisteneau, Bienville Parish, where R. O. Roy, of Shreveport, has large holdings adjoining a large block held by Arkansas Fuel Oil Company, which several years ago completed several shallow gas wells.

In Webster Parish, Parrott and associates are blocking in township 17 north, range 9 west, and in Bossier Parish, Tom McKinnie of Mansfield, has assembled a 5,000-acre block in townships 20 and 21 north, ranges 13 and 14 west.

Producers Oil & Gas Company, headed by Will E. Hall of Shreveport, and H. M. Harrell last week sold a one half interest in approximately 10,000 acres of leases in the Sligo gas field, Bossier Parish, and nearby semi-wildcat acreage to the Win-or-Lose Oil Company of Monroe, Louisiana, headed by Lieutenant-Governor James A. Noe, for a cash consideration of $87,500, it was officially announced last week. One producing gas well in the Sligo field and two tests outside of the field, now drilling, are included in the sale. Several new tests are planned on the holdings. Sligo several months ago was added to the list of North Louisiana gas fields producing from the upper Glen Rose, in this field at about 4200 feet.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH—		
Leonard Co., Muslow G2, 17-20n-15w	¶1/3	799
United Gas, Thomas 1, 23-23n-16w	1500	8039
OUICHITA PARISH—		
Ark-La Gas Co., Rea-Green 12, 3-18n-4e	¶1½	2170
SABINE PARISH—		
Hunter Co., Sabine 17, 7-7n-11w	*	2910
M. T. Hines, Hill 1, 4-6n-11w	*	3018

*Failures; †Junked; ¶Million cu. ft. gas.

RODESSA ALLOWABLE

Shreveport.—The Rodessa field, Caddo Parish, was given a daily allowable of 3000 barrels per day in the October proration order for Louisiana announced last week by Dr. J. A. Shaw, head of the minerals division, Louisiana Conservation Commission, allocator for the state, but the order was later amended to allow each oil well in the field 1000 barrels production daily for the month. During September the allowable per well was 1750 barrels but at the beginning of that month there was only one oil well in Rodessa.

The rest of North Louisiana was given an allowable of 21,000 barrels daily.

South Louisiana was given an 118,600-barrel allowable.

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ASHLEY COUNTY—		
G. E. McFadin, Bovine Farms 1, 1-18-8	*	2785
SEVIER COUNTY—		
Pendleton & Vaughan, State Life 1, 27-9-30	*	1080
UNION COUNTY—		
C. E. Murdock, Inc., Dumas 3, 11-17-14	*	3323

*Failures; †Junked; ¶Million cu. ft. gas.

ARKANSAS STARTS

El Dorado, Ark.—Four drilling permits were issued last week by the Arkansas Board of Conservation, as follows:

In Miller County L. H. Mahan, Miller Land & Timber Company 1,300 feet south and west NEc SW SE 29-18-27; C. W. Hays et al, Hot Springs, Arkansas, State of Arkansas, 1,316 feet east and 200 feet north SWc SE NE 31-15-25.

In Sevier County Pendleton & Vaughan, Shamrock, Texas, Dierks Timber and Coal Company 1, corner NW NE 14-10-29.

In Union Couty Lion Oil Refining Company, B. Graves 11,200 feet east and 240 feet north SWc SE SW 3-16-15.

Benedum & Trees Oil Company last week had spudded H. G. Brigham 1, center NE SW 29-14s-19w, a wildcat in southwest Ouachita County, for a 6,000-foot test. The test is on a large wildcat block six miles north of Stephens. John Pugh of Shreveport has the drilling contract.

FLORIDA TEST CORES

Miami, Fla.—William G. Blanchard, president, Oil Development Company of Florida, which company is drilling the South Lake well for J. Ray Arnold and associates, of Groveland, Florida, announced that at the present time the operators are coring the formations at 2010 feet below the surface. Further, that as each rock core is withdrawn from the depth of the earth it is examined to determine of what material it is constituted, and it has been found that practically all the material so far recovered has been limestone of one form or another.

WELL OUTPUT CUT

Eunice productive area is extended half a mile

NEW MEXICO WEEKLY STAFF REPORT

Hobbs, New Mexico.—Rapid gain in the number of producing wells sharing in the restricted proration quota available for fields in Lea County, principal source of crude in New Mexico, resulted in the Oil Conservation Commission lowering the output of all prorated wells beginning October 1. Hobbs field's allowable was lowered 748 barrels to 28,593 barrels daily, or an average of about 111 barrels daily per well. Other Lea County fields that share in the same market outlet provided by major pipe lines extended from West Texas were reduced from 130 to 126 barrels daily per well at the start of the proration period. Wells incapable of making the top allowable are exempt from production restrictions. The oil commands a flat price of 75 cents per barrel, irrespective of the gravity.

Production in the Eunice field was advanced more than a half-mile to the south by the successful completion of Sun Oil Company's H. S. Record 1, C NW NW 22-22s-36e, making 88 barrels of oil in 18 hours after shot of 360 quarts of nitro in lime at 3700-3844 feet. Two previous injections of 4000 gallons of acid solution each failed to stimulate production. The well was drilled to a sub-sea depth of 305 feet, and logged top of brown lime at 3030 feet. It will require three offsets.

Wyoming Routine

PROVED FIELDS COMPLETE NO WELLS DURING WEEK

WEEKLY STAFF REPORT

Casper, Wyo. — Proved field operations remained routine in Wyoming during the week with no new completions, though several wells were at critical stages.

At late report Ohio Oil Company had one stand of drill pipe in still in hole above frozen tester at 3942 feet in Carrie Putnam 4, SW SW 33-36n-65w, Lance Creek field, Niobrara County, and was washing over. Hole bottoms at 4000 feet. The well tested 60 barrels an hour through the drill stem at 3942 feet with bottom of Sundance at 3996 feet two weeks ago before fishing job developed.

Huber Oil Company's Jose 1, northeast corner 6-35n-65w, is drilling at 3130 feet.

In the Big Muddy field, Converse County, Continental Oil Company's deep test to the unexplored Tensleep at Big Muddy, State 60, NW SE NE 9-33n-76w, is coring black sandy shale at 4176 feet.

Two wells started in the Osage field, Weston County. Federal Oil Company is moving in material for Fee 8, CNE SE 15-46n-64w, and Henry Eggert staked location for Government 2, SW NE SE 8-46n-63w.

Big Horn County

Ohio Oil Company's Byron-Union 3, SE NW 25-56n-97w, Byron field, Big Horn County, is coring in the Embar at 5223 feet and showing good saturation. In the Garland field company's P. G. Sessions 3, northwest corner, 33-56n-97w, is also coring the Embar, at 1083 feet, with its objective the Madison lime at about 3600 feet.

In the Garland field, Yale Oil Corporation's Allen 1, SE NW SE 33-56n-97w, northern Wyoming, is drilling at 2300 feet. Paul Stock of Cody has the contract for the well.

Peay Oil Company's 1, NE NE NE 15-55n-97w, south Garland fault block, is side-tracking collapsed joint of casing at 3130 feet.

The California Oil Company joint with Ohio Oil Company is drilling at 4864 feet in State 1-2, CNW NW 36-21n-70w, Big Medicine Bow Dome, Carbon County. California and Ohio's Union Pacific 1, Account 1, NE SW SW 24-21n-79w, is still shut down for water at 510 feet after cementing the 11⅝-inch casing at 505 feet.

Ohio Oil Company's deepening operation, Diamond Cattle Company 5, NWc SW NW 35-27n-88w, in the Rock River field, Carbon County, Wyoming, is pulling oil liner from 2832 feet in the Dakota, where it was completed in 1922 for 1000 barrels initial, preparatory to going to the Sundance.

Hot Springs County

In the Grass Creek field, Hot Springs County, Wyoming, Ohio Oil Company's Mill Iron Cattle Company 72, NE SE SE 19-46n-98w, is drilling at 1083 feet, after setting the 15½-inch surface string at 112 feet. Stanolind Oil & Gas Company's northern offset to this well, Mill Iron Cattle Company 72, is moving in tools for Ridgley 20, CSE SE 19-46n-98w.

On Waugh Dome, Hot Springs County, California Exploration Company's Government 2, W½ SW NW 7-44n-96w, is drilling at 3601 feet.

The Intermountain Petroleum Company's Union Pacific 1, SW NW SW 29-14n-118w, Spring Valley field, Uinta County, southwestern Wyoming, is drilling at 1500 feet. In the same field W. D. Marshall's Government 1, NW NW SE 12-15n-118w, is drilling at 263 feet.

Stanolind Oil & Gas Company's Midwest Oil Company 26, CSE NW 25-40n-79w, is coring at 1530 feet in the Salt Creek field, Natrona County.

MOUNTAIN STATES

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
Texas Co., Kearns 3, cne nw 23-35n-6w	125	2851
Custer Oil Co, Tweedy 1, nw ne 36-33n-6w	149	2788
R. C. Tarrant, Britton 4, csw sw 12-34n-6w		2832
R. C. Jeffries, Lukens 3, sw se 1-33n-6w	*	2995
TOOLE COUNTY (Kevin-Sunburst Field)—		
Pfabe & Engelking, Government 9, nw sw se 19-35n-2w	*	1555
PONDERA COUNTY (Valier Area)—		
Texas Co., 1-Unit-5, csw sw 3-30n-5w	*	2912
Wm. Fulton, Erickson 1, sw sw ne 10-27n-4w	82	1944
TOOLE COUNTY (Kevin-Sunburst Field)—		
Potlatch Oil & Refining So, Fee 7, nw nw se 21-34n-1w	¶1½	1172
WYOMING		
NIOBRARA COUNTY (Lance Creek Field)		
Continental Oil Co., Otto Rohlff 5, se sw 32-36n-63w	2736	3900
NEW MEXICO		
SANTA FE COUNTY (Barton Dome)—		
Fisher & Wolcott, Hill 1, sw 6-19n-7e	*	2750
LEA COUNTY (Eunice Field)—		
Gypsy, Orcutt 1, c lot 14, sec 5-21s-36e	300	3890
TP Coal & Oil Co., State 1, lse 2, c se sw 9-22s-36e	¶18-1000	3835
LEA COUNTY (Monument field)—		
Gypsy, B. V. Culp 1, c ne nw 19-19s-37e	¶2-1550	3970
Phillips, B. V. Culp 1, c nw nw 19-19s-372	1200	3990
Shell, State 1-B, c sw nw 36-19s-36e.	2000	3924
LEA COUNTY (wildcat)—		
Culberson & Irwin, Eva Brown 1, c ne ne 23-21s-32e	*	3602

*Failures; †Junked; ¶Million cu. ft. gas.

ILES FIELD WELL

Craig, Colo.—The Iles field, Moffat County, northwestern Colorado, had a completion this week when Stanolind Oil & Gas Company brought in S-D Parkinson 5, NWc SE 22-4n-92w, for 620 barrels daily in the Sundance topped at 3274 feet and with hole bottomed in the formation at 3330 feet. Parkinson 16-X, SE NW NW 23-4n-92w, of the Stanolind's is rigged and ready to spud.

In the same county, in Hiawatha field, northwestern Colorado, Mountain Fuel Supply Company's Georgia Kuykendall 1, NE SE 22-12n-100w, in drilling at 2220 feet.

GOOD CUT BANK WELL

Kevin Sunburst and Cut Bank lead Montana work

Great Falls, Mont.—Montana activity continues to center in the Cut Bank and Kevin Sunburst field on the northern part of the state. The Cut Bank field had an above average completion in Montana Power Gas Company's Hall 1, CSW SW 35-36n-6w, which made 312 barrels initial with depth at 3050 feet. The Cut Bank sand was logged between 3025-50 feet. The well is early developed northern sector of the field.

Glacier County

The Texas Company completed Mueller 1, SW SW 2-35n-6w, for 25 barrels daily on the pump. Hole bottoms at 3030 feet. Montana Power Gas Company's Reagan 1, 660 feet west of the center of 28-35n-5w, gas district, completed for 17,500,000 cubic feet daily at 2,705 feet, topping the pay gas horizon at 2,685 feet. Usual Cut Bank gas wells initial less than 9,000,000 cubic feet.

A. W. Cobb and K. D. Pardee are building rig for Mable Morrison 1, Lot 8, SW SW 24-33n-6w, an important extension test to the west of Cut Bank proved limits. The well is approximately a mile west and three miles north of Custer Oil Company's Tweedy 1, CNW NE 36-33n-6w, which extended the field to the southwest. Consolidated Gas Company staked location for Simero 1, CNE SE 1-33n-6w, a mile north of the Cut Bank town limits.

Ohio Oil Company released two locations in the Kevin-Sunburst field, Toole County: Isreal Sindon 2, NW NW 1-35n-2w, and John Reeg 8, NW NW NW 14-35n-2w. M. P. F.'s McGowan 7, SE SE SE 8-35n-2w, was a near completion, acidizing with 1000 gallons at 1535 feet.

The Montana-Dakota Utilities Company's Unit 1, NE NW 17-4n-6e, is coring at 3727 feet. This is a deep test of the Cedar (Baker-Glendive) gas structure, Fallon County, eastern Montana.

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Kern Is Active

COUNTY GETS SEVERAL NEW WILDCAT DRILLING VENTURES

CALIFORNIA

WEEKLY STAFF REPORT

Los Angeles. — Milham Exploration Company continues to deepen Kern 5, in the Buttonwillow gas field, Section 5-28s-23e, Kern County.

This well was drilled about six years ago to 2716 feet, but was never satisfactorily completed. On a recent test made with depth at 3094 feet and formation tester set at 3056 feet, the well made 12,450,000 cubic feet per day rate of gas on a seven-minute test. The hole is now being deepened at 3114 feet and operators plan to make another test at about 3130 feet.

The successful test at 3094 feet helps to prove up a zone that was known to exist in the northerly end of the Buttonwillow structure but which had never been tested in this end of the field.

Another test of the Caliente Creek district, located about five miles east of the Edison field, Kern County, is being abandoned.

Caliente Oil Company's S. P. 3, Section 31-29s-30e, was drilled only to 460 feet and encountered no oil-bearing formations of commercial importance, the only showings being a dead oil zone from 350 to 360 feet.

While productive formations in this area must necessarily be very shallow, since the granite outcrops only a short distance to the east, the area was considered very favorably when Woodward Oil Company obtained its first 60-barrel producer a few months ago. However, this producer soon went to water and no additional production has been obtained.

Shell Oil Company has taken over the Comanche Oil Company's No. 1 well, Section 15-32s-29e, located about eight miles south of the Mountain View field, Kern County, and plans to deepen to the Temblor formation.

This well has been standing idle since August, 1934, at a depth of 4325 feet. Top of the Chanac formation was picked up at about 3000 feet and the well is understood to be correlating from 2500 to 3000 feet higher than General Petroleum Corporation's Mattson 1, located in this same township about three miles to the northeast, which is now drilling ahead at 8387 feet in barren gray sand and shale.

Midway Field

Two additional wells located within the productive limits of the Midway field, Kern County, are scheduled to start immediately.

California Commercial Drilling Company has made location for its No. 9 well near the center of Section 26-32s-23e, and Standard Oil Company is grading rig site for its No. 29, near the northeast corner of Section 3-32s-24e.

This gives the Midway field, one of the oldest in this portion of the state, a total of six drilling wells at the present time, as compared with an average of about two for the past four years.

Shell Oil Company is circulating oil and trying to loosen drill pipe stuck at 7750 feet in its B. V. A. 1, wildcat test located on the southerly edge of the old Buena Vista Lake bed, about four miles east of the Buena Vista Hills portion of the Midway-Sunset field, Kern County, in Section 9-32s-25e.

Total depth of this test is 9091 feet, bottomed in barren gray sand and shale, and the drill pipe was stuck while going into the hole with a core barrel. With the exception of a few gas showings just below 5950 feet, where 9⅝-inch casing is cemented, no showings have been penetrated during the entire drilling of B. V. A. 1.

Union Oil Company has recently placed of record assignments taken on numerous leases scattered through Sections 6, 8, 17, and 18, of Township 27 south, Range 27 east, located about eight miles west of the Mount Poso field, Kern County.

Union has no plans for immediate drilling but has taken the leases merely as a potential reserve. There are numer-

CALIFORNIA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
KETTLEMAN HILLS—		
Standard, No. 23-19J	7700	8460
No. 36-27J	1100	8400
BUENA VISTA HILLS—		
Honolulu Oil Corp., No. 25	265	3135
EDISON—		
Monterey Explor. Co., Citizens 4	275	2796
Union, Dougherty 2	375	1510
KERN FRONT—		
Republic Pet. Co., Strassburger 5	260	2164
Standard, No. 3	75	2610
MOUNTAIN VIEW—		
Shell, Porter 2-2	3575	5877
ROUND MOUNTAIN—		
Shell, Olcese 1-2	300	2060
SEMITROPIC—		
Standard, Gutzler 1	¶10	2408
EL CAPITAN—		
Shell, Covarubias 1-7	450	1320
ELWOOD—		
Signal Oil Co., Permit 98-5	500	3725
KERN COUNTY—		
Caliente Oil Co., S.P. 3	*	460
LONG BEACH—		
Eskagee Oil Co., No. 1	185	4125
Orbit Oil Co., No. 1	160	4145
WEST COYOTE—		
Standard, M-C 123	1115	6048

*Failures; †Junked; ¶Million cu. ft. gas.

ous small fields scattered throughout this general area, and especially to the south and east.

Union Oil Company has just completed an extensive geophysical program over the district where the leases were taken.

TWO MORE FAILURES
Del Rey Hills extension area disappointing

Los Angeles.—Two more wells in the Del Rey Hills extension area of the Venice field, Los Angeles County, were acknowledged failures last week and are scheduled for abandonment in the near future.

Allied Petroleum Company's No. 1 made a very poor showing on all production tests. Very little fluid was present and even with the aid of a pump the well made practically all water, with but an occasional slug of oil. This is one of the most easterly wells in the area and bottom of the hole is at 6686 feet, with 6⅝-inch casing cemented at 6440 feet.

Andrew Lucas drilled his No. 1 well to 6637 feet, bottomed in schist, the top of which was penetrated at 6625 feet. Only a very thin section of the productive conglomerate zone was present in this location, which is the most southerly well drilled on the Del Rey structure, and the operator plans to abandon the project without even attempting a production test.

Lennox Oil Company is preparing to drill a wildcat test in the southeast corner of Section 9-3s-14w, about 10 miles southwest of Los Angeles and about one mile northeast of the old Lawndale field.

Numerous wells were drilled throughout this general area during the drilling boom of the Los Angeles Basin from 1923 to 1929, but none within one half-mile of this new location. Also, most of the wells previously drilled were abandoned at depths ranging from 4500 to 6100 feet, none of them going deep enough to penetrate the conglomerate bed just above the schist, where production has recently been obtained in two different places in the basin, and where this venture hopes to find oil.

Hillman-Long, Inc., Pellissier 1, wildcat venture located in the extreme westerly edge of San Bernardino County, Section 2-3s-8w, has uncovered some interesting oil sand showings.

This test is now being cored ahead at 2116 feet in hard shale. From 2004 feet to bottom, numerous thin streaks of oil sand have been present in the shale. While these streaks, in themselves, are of no commercial value, still if the formations below conform with those penetrated in Western Gulf Oil Company's producer, Abacherli 1, located about one mile to the southeast in Section 12-3s-8w, the main oil sand body may be expected soon.

SANTA BARBARA CO.

Los Angeles.—Marmonte Oil Company plans to start operations immediately on a well to be drilled on a small lease located just north of the old Summerland field in the southeasterly portion of Santa Barbara County overlooking the ocean.

Location will be near the southeast corner of Section 16-4n-26w, less than one fourth of a mile from the edge of production of the old field, and is understood to be a shot for fault accumulation from both the Vaqueros and Sespe formations.

Summerland field was an important factor in early California production, although a comparatively small field. However, owing to the demand for an oil that was so accessible to shipping, and the consequent heavy drainage upon the field, production soon went to water and today the field has a potentioal of only 50 barrels per day.

O. C. Field Gasoline Corporation has made location for a wildcat test to be drilled on its extensive holdings in the Santa Maria district, Santa Barbara County.

The new project will be drilled near the center of Section 28-10n-33w, about six miles to the southeast of the town of Santa Maria, and about eight miles to the southeast from where Union Oil Company is now drilling its LeRoy 1, Section 16-10n-34w, at a depth of 3100 feet with no oil or gas showings yet in evidence.

The O. C. Field Gasoline Corporation, an independent concern that has largely confined its operations to Santa Barbara County, holds considerable acreage, both in the immediate area and also scattered throughout the numerous small fields in the western portion of the county.

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Grizzly Cub is the ranking heir of Grizzly Powerflex Rotary Hose - - - a new Grizzly Hose, competitive in price, with ample strength to withstand any pressure encountered in the deepest drilling and all the superb flexibility that has made Grizzly Powerflex the outstanding rotary hose of all time. Try Grizzly Cub - - - It's Plenty Tough.
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START OGEMAW PLAY

Prolific 1800-foot sand horizon is attraction

WEEKLY STAFF REPORT

Mt. Pleasant.—Strange and Fortney's State B-1, 21n-2e-1, Ogemaw County, brought into prolific Traverse lime production on September 24, is expected to stimulate drilling activity in this area of the state. State B-1 is producing from a cased depth of 1723 and bottom hole of 1800 feet, and because of light equipment, operators had been unable to shut it in successfully up to October 2. Daily open flow production has been estimated up to 12,000 barrels based on tank gauges over hour periods. The top gauge was checked at 425 barrels in 59 minutes.

Lacking pipe line facilities and connections, operators have put up 9000 barrels of storage on the lease, and have produced from 1000 to 3500 barrels daily.

While the test marks the first prolific production in the Ogemaw area to stand up over a period of days, the industry as a whole has not shown unusual excitement. Although located about a half mile northwest of production in the Traverse and deeper Dundee lime in Section 6 of Mills township (21n-3e) the area structurally is more or less defined as a high water drive district. Likewise, the Traverse lime has proven more or less irregular and erratic in production. In other areas of Ogemaw it has produced "flash" wells although none to compare with the Strange-Fortney State B-1.

While 1800-foot production that can be drilled for less than 50 percent of the costs in other producing districts of Michigan, is attractive it is partially offset by the fact that the oil is a heavy black crude now drawing 86 cents per berrel as against $1.02 for other areas of the state.

There were no important developments in other areas of Michigan during the week. M. C. Fordye's Suszko 1, 18n-3e-11, Bay County, which showed 900 feet of oil over a 12-hour period from the Traverse at 2036 feet, was still being tested this week with operators expecting to deepen for a Dundee test.

In Montcalm County, A. J. Gray's Kimball 1, 11n-5w-32, west extension test, drilled into Dundee black water and will be abandoned.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GLADWIN COUNTY—		
M. F. Whitehill, Dell 1, 17n-2w, se sw sw-2	175	3890
GRATIOT COUNTY—		
Mid-State Dev., Anderson 1, 11n-3w, se ne ne-20	*	3450
John Pento, Sharrar 1, 11n-4w, nw ne-23	*	1011
LAPEER COUNTY—		
W. C. Sowell, Schemlp 1, 8n-9e, nw sw sw-3	†	....
King Ranch 1, 8n-9e, se se se-1	†	....
Kohler 1, 8n-9e, sw se sw-4	*	950
Clyde Newnon, Herklotz 1, 8n-10e, nw ne se-28	†	....
MECOSTA COUNTY—		
Columbia Oil Co., Bale 1, 13n-8w, c nw ne-31	*	1600
MONTCALM COUNTY—		
Eastern Gulf, Rule 1, 10n-5w, se ne nw-2	35	3201
Rule 2, 10n-5w, ne ne sw-2	132	3200
Pure, Preston 2, 10n-5w, se se ne-3	2100	3190
Stork Oil Co., Dickinson 6, 10n-5w, sw nw se-3	360	2900
Daily Crude Oil Co., Tow 2, 10n-5w, sw nw sw-2	1000	3186
Flint 2, 11n-5w, sw sw se-35	110	3206
OGEMAW COUNTY—		
Strange & Fortney, State B-1, 21n-2e, se ne ne-1	5000	1800
SAGINAW COUNTY—		
Smith Pet. Co., Palber 5, 10n-6e, ne nw se-20	25	1548

*Failures; †Junked; ¶Million cu. ft. gas.

MICHIGAN LINE

Crystal 140-mile right of way being taken

Mt. Pleasant.—Taking of right of way for the 140-mile pipe line from the Crystal field (Michigan) to Toledo, Ohio, to be built by Simrall Pipe Line Corporation in conjunction with Standard Oil Company of Ohio, was started October 1 by A. E. Butterfield, Mt. Pleasant attorney and for four years connected with land work in Texas.

Actual construction is scheduled to be started by October 15 by Franklin Tool Company of Mt. Pleasant, awarded the pipe line contract.

Completion of the eight-inch line, estimated a million and a half dollars completed cost, is expected to change the present marketing set-up in Michigan. Simrall up to this time has not been a major buyer of Michigan crude, ranking second to Pure Transportation Company. Pure transports the bulk of its crude by lake tankers from Bay City, Michigan, using railroads during the non-shipping months.

With a direct pipe line into the Ohio refining center, Michigan will be in a position to lay down crude on this market in competition to the Southwest for the first time. Inability to attract large consignments of crude because of the freight differential in Toledo, has retarded Michigan marketing for several years.

MICHIGAN OIL SHOW

Mt. Pleasant.—Upwards of 20,000 persons visited the first Michigan Oil and Gas Exposition, staged here from September 23 to 28. Plans already are under way for 1936 with dates tentatively set for August 11 to 16, with the committee believing that setting it ahead will sidestep bad weather encountered late in September.

Approximately 250 companies had exhibiting space at the exposition, which was sponsored by the Oil and Gas Association of Michigan and the Mt. Pleasant Chamber of Commerce.

EASTERN STATES

WEEKLY STAFF REPORT

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
PENNSYLVANIA		
WASHINGTON COUNTY—		
Furman Nuss & Co., Pipes 1	¶	....
GREENE COUNTY—		
David Bradock, Bradock 1	¶	....
WEST VIRGINIA		
CABELL COUNTY—		
W. C. Kingery & Co., Midkiff 1	¶	1312
CALHOUN COUNTY—		
Harley Jarvis & Co., Crookshank 2	*	2095
Starcher & Richard, Kight 1	¶	....
KANAWHA COUNTY—		
G. L. Cabot, Inc., Levi 1	¶	4867
Columbia Carbon Co., Lewis 14	¶	4641
RITCHIE COUNTY—		
W. H. Mosser & Co., Fleming 2	¶	2048
Pine Knob Oil Co., Weinrick 6	*	2049
Frank Finley, Gilpen 2	*	2013
R. W. Pierson & Co., Ritchie 1	¶	1965
H. J. Scott & Co., Strickler 1	*	....
RALEIGH COUNTY—		
G. L. Cabot, Inc., Beaver 8	¶	....
HANCOCK COUNTY—		
George Dawson, Pugh 1	¶	....
WAYNE COUNTY—		
Mullens Gas Co., Ferguson 1	¶	2764
WETZEL COUNTY—		
C. B. Lewis & Co., Dappler Hrs. 1	¶	2180
WIRT COUNTY—		
Glen Roberts & Co., McCanaughey 1	3	1946
ROANE COUNTY—		
Spencer Nat. Gas Co., Young 1	¶	....
W. B. Heeter, Heeter 1	3	....
SOUTHEASTERN OHIO		
NOBLE COUNTY—		
W. T. Warren & Co., Davis 1	*	....
MORGAN COUNTY—		
Hepple & Co., Vanfossen 12	¶	1584
Choquill & Co., Ervin 3	*	1478
NOBLE COUNTY—		
Thomas Brown & Co., Brinks 2	¶	307
MONROE COUNTY—		
Forrest Simmons, Hall 1	¶	1800
Wolf Penn O&G Co., Bishop 2	*	1419
WASHINGTON COUNTY—		
Harry Binegar, Moore 6	*	1967
West Penn Oil Co., Rauch 1	¶	1483
High Point O&G Co., Burkhart 2	¶	1550
PERRY COUNTY—		
Mid-East Gas Co., Ansel 1	¶	3171
Perry Sturm & Co., Vansickle 2	¶	3018
VINTON COUNTY—		
Kelch Bros., Myers 3	¶	957
HOCKING COUNTY—		
Preston Oil Co., S.C.C. Co. 121	50	3496
CENTRAL OHIO		
ATHENS COUNTY—		
D. T. Orndoff, Keirns 1	¶	562
Elmer G. Angell, Townsend 1	*	1565
MEIGS COUNTY—		
Ohio F. G. Co., Hines 1	¶	1098
Winters 1	¶	2097
Rutland Gas Co., Burney 1	¶	866
D. S. Moffitt & Co., Wolfe 1	*	1945
Turney & Co., McKensse 1	¶	2030
FAIRFIELD COUNTY—		
City Nat. Gas Works, Noble 1	*	2121
STARK COUNTY—		
White & Co., Isler 2	¶	4543
HOLMES COUNTY—		
Lydic O&G Co., McDowell 1	¶	833
LICKING COUNTY—		
E. J. Edmond, Smith 3	*	628
HARRISON COUNTY—		
Frank Lyons & Co., Birney 1	¶	5760
TUSCARAWAS COUNTY—		
James Upham, Ehlers 1	¶	4818
BELMONT COUNTY—		
A. J. West & Co., Perkins 1	¶	1140
KNOX COUNTY—		
Delbert Hyman, Horn 1	*	772
GUERNSEY COUNTY—		
East Ohio Gas Co., Cadd 5	22	3571
George Kernodle & Co., Wilson 1	*	1090
George Jewell & Co., Henderson 1	¶	1542
Hill 1	¶	1367

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

ALABAMA

BALDWIN COUNTY—Danciger O&R Co.'s U. S. Government 2, (Fort Morgan reservation) rur.

LAMAR COUNTY—DeSoto O&G Co.'s Gardner 1, nw nw 22-15-16, dr 4760 ft lime & chert.

MOBILE COUNTY—J. C. Prine's King 1 (formerly carried Fee 2), n½ ne 4-1n-4w, dr 2952 ft shale.

ARKANSAS

ARKANSAS COUNTY—Grand Prairie Realty Co.'s Fischer 2, ne nw nw 6-6s-4w, fsg td 1626 ft.

ASHLEY COUNTY — Benedum & Trees' Holmes 1, ne sw wocs 15¼-in csg 150 ft. Texas Seaboard Oil Co.'s Bynum Cooperage Co. 1, se sw nw 34-17s-4w, rur.

COLUMBIA COUNTY — J. G. Cubage's Rhea 1, sw se se 12-17-22, sd 3500 ft. Southern States Gas Co.'s Pinewoods Lbr. Co. 1, ne nw 10-20-22, dr 1260 ft.

DALLAS COUNTY—J. D. McCall's & J. D. Kelly's R. Owen 1, nw sw 26-10-16, claim so 484.89 ft sd 535 ft.

HEMPSTEAD COUNTY — Geo. L. Glass' May B. O'Brien 1, ne sw 32-12s-23w, dk & mu. F. W. Martin's Lafferty 2, se nw 17-14-27, rur.

LAFAYETTE COUNTY — Earl F. Fox's Coleman 2, ne ne 30-16-24, spd setting surf csg. Leach et al's Bodcaw Lbr. Co. 1, 20-16-23, lcn. Joe Modisette et al's Frost Lbr. Co. 1, sw sw 29-19-24, dr 1892 ft shale. S. H. Riggs et al's DuBose 1, se sw nw 35-16-24, pb & re-drilling sand at 2597 ft old td 2817 ft. Transportation Pet. Co.'s Cochrane 1, ne se 26-19-25, Annona chalk 2337-2690 ft, dr 2720 ft sandy shale. Wadley et al's Red River Lbr. Co. 1, 19-16-23, lcn.

MILLER COUNTY—King Oil Corp.'s G. W. Crank 1, sw ne 19-16-25, recemtd 10-in csg 66 ft td 1300 ft. C. W. Hays et al's State of Ark. 1, sw se ne 31-15-25, mim. McAlester Fuel Co.'s Cook 1, 18-20-27, mim. L. H. Mahan et al's Miller L&T Co. 1, sw se 29-18-27, wocs 10-in csg 150 ft. Travis & Wair's Capps 1, 11-20-28, lcn.

MONROE COUNTY — Beaver Pet. Co.'s Stinson 1, se sw 27-4-2, wocs 10-in csg 216 ft. Monroe Oil Co. Inc.'s Harvey 1, se se 19-1-1, rur.

OUACHITA COUNTY—Benedum & Trees' Brigham 1, ne sw 29-14-19, spd. Snow-Black Pet. Co.'s Jerry Bedford 1, sw sw 32-11-18, fsg bit 1735 ft.,

POINSETT COUNTY—Rockwell Dev. Co.'s Fee 1, 13-11n-3e, dr 2065 ft.

SEVIER COUNTY—Pendleton & Vaughan's Dierks Timber & Coal Co. 1, nw ne 14-10-29, rur.

UNION COUNTY — Arkansas-Southern Oil Co.'s Laney 1, 32-19-16 (formerly carried Wallingford & Cobb), 10-in csg 176 ft. Mrs. R. K. Jones' J. Davis 1, nw nw 28-16-14, sd 3295 ft. Proetz & Richardson's Calion Lbr Co. 1, 10-16-14, sd 3120 ft repr rig. Ohio Oil Co.'s Sam Oliver 2, nw sw sw 7-17-13, lcn.

CALIFORNIA

KERN COUNTY

BARBER COUNTY—Wentz's Skinner 1, cnw ne 29-31s-14w, td 4693 ft, D&A.

ARVIN — General's Mattson 1, 1-32-29, dr sand and shale 8396 ft.

BUENA VISTA LAKE—Ohio's K. C. L. A-3, 31-31-26, preparing to spud. Shell's B. V. A. 1, 9-32-25, td 9083 ft, trying to loosen stuck drill pipe.

BUTTONWILLOW—Wilham Explor. Co.'s Kern 5, td 3127 ft, wocs 8⅝-in 2985 ft.

CALIENTE—O&H Oil Co.'s O&H 1-A, 32-30-30, dr gray sand 364 ft.

COMANCHE POINT—Comanche Oil Co.'s No. 1, td 4325 ft, co to deepen to Temblor. Tejon Ranch Oil Co.'s No. 1, 23-32-29, sd 2177 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

* —*dry hole abandoned well.*	owdd —*old well drilling deeper.*
‡ —*salt water (completions.)*	owpb —*old well plugging back.*
† —*junked and abandoned.*	pb —*plugged back or plugging back.*
¶ —*million feet of gas.*	r —*reaming.*
abd —*abandoned.*	rog —*rig on the ground.*
bbls —*barrels.*	rur —*rigging up rotary tools.*
br —*building rig.*	rust —*rigging up standard tools.*
b.s. —*basic sediment.*	sd —*shut down.*
csg —*casing.*	sdtr —*sidetracking.*
co —*cleaning out.*	sg —*show gas.*
dd —*drilling deeper.*	si —*shut in.*
dk —*derrick.*	so —*show oil.*
dr —*drilling.*	so & g —*show oil and gas.*
fsg. —*fishing.*	spd —*spudding.*
ft —*feet.*	sr —*straight reaming.*
hfw —*hole full of water.*	sw —*salt water.*
in —*inches.*	td —*total depth.*
lcn —*location.*	ur —*underreaming.*
m —*milling.*	wih —*water in the hole.*
mim —*moving in materials.*	wo —*workover.*
mit —*moving in tools.*	wocs —*waiting on cement to set.*
mot —*milling on tools.*	wosr —*waiting on standard rig.*
n, s, e, w, —*north, south, east, west.*	
oih —*oil in hole.*	

DEVIL'S DEN—Cumberland Oil Co.'s Cumberland 2, 17-26-18, co td 3260 ft.

EDISON—Bauer Oil Co.'s Bauer 1, 21-30-29, td 1220 ft, redr 895 ft. Navy Oil Co.'s Caravil 1, 19-30-30, dr pipe stuck, td 400 ft.

FAMOSA—Ausbrit Oil Corp.'s No. 1, 20-27-27, rig.

GRAPEVINE—Silver Gate Co.'s Tejon 1, 7-10-19, sd 2170 ft.

GREENFIELD—United Explor. Co.'s Ricomini 1, 23-30-27, sd 3755 ft. To drop from report.

LOST HILLS—Standard's United 1, 2-26-20, td 3816 ft, fsh dr pipe.

McFARLAND—John H. Webb's Alta 1, 16-26-26, dr sandy shale 1912 ft.

SAN EMIDIO—Ohio's K. C. L. C-11-49, 11-22-22, dr sand and shale 4595 ft.

SO. BUTTONWILLOW—Doyle Pet. Corp.'s No. 1, td 5265 ft, rep boilers.

SO. DOME—Continental's Gatchell 28-7, 7-25-20, dr hard sand 7753 ft.

TRICO—Standard's Bolz 1, 33-24-23, rig.

MISCELLANEOUS

FRESNO COUNTY—Taft Well Dr. Co.'s Kreyenhagen 1, 33-22-16, dr sand and shale 4568 ft.

SAN JOAQUIN COUNTY—Amerada's F. D. L. 1, 15-2-5, dr gray sand 7714 ft; Tracy 31-22, 22-2-5, spd.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, waiting on casing 5032 ft.

MONTEREY COUNTY—Shell's Branch 1, 34-24-10, dr black shale 5361 ft.

SANTA BARBARA COUNTY

CARPINTERIA—Santa Barbara O&G Co.'s Bryce 1, 29-4-25, rur.

GOLETA — Shell's Hollister 1, 10-4-20, sd 2977 ft.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, to deepen from 1263 ft.

SANTA MARIA—O. C. Fields Gaso. Corp.'s No. 1, 28-10-33, material on lcn. Union's LeRoy 1, 16-10-34, dr sand 3106 ft.

SUMMERLAND—Marmonte Oil Co.'s No. 1, 16-4-26, rig.

VENTURA COUNTY

BARDSDALE—Union's Dryden 10, 12-3-20, dr hard sand and shale 4364 ft.

FILLMORE—Texas Co.'s Unit Plan 2-1, 29-4-19, dr sand and shale 3604 ft.

LAS POSAS—Las Posas Pet. Co.'s Mahan 1, 22-3-20, sd 8120 ft.

OXNARD—General's McGrath 1, 26-2-23, dr shale and sand 7025 ft.

SHIELLS CANYON—Bankline Oil Co.'s Calumet B-1, 3-3-19, dr hard sand 2925 ft. Texas Co.'s Shiells 128, 4-3-19, td 7423 ft, plug 4396 ft, to test upper formations.

SIMI—Jas. S. Hull's No. 1, 2-2-18, dr shale 789 ft. Paloma Oil Co.'s Paloma-Marr 1, 12-2-18, sd 2740 ft.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, dr sandy shale 6224 ft.

SOUTHERN CALIFORNIA

BREA CANYON — Pressel - Perry - Tull's Baird 1, 30-2-9, td 4535 ft, bailing for wocs 5-in.

CARBON CANYON — Tehama Pet. Corp.'s Kraemer 1, 33-2-8, waiting on 7-in. to perf and test.

EAST MONTEBELLO—Wilshire Annex Oil Co.'s Baldwin C-1, 11-2-11, sand and sh; Baldwin B-2, 4-2-11, lcn. Will drop from report.

EL SEGUNDO—Larco Oil Co.'s Van 1, 12-3-15, dr hard shale 7035 ft.

HAWTHORNE—Lennox Oil Co., Well 1, 9-3-14, foundations.

KRAEMER—Standard's Yorba Comm. 1, 36-3-9, bldg rig.

LAWNDALE — Sovereign Oil Corp.'s Ben Long 1, 22-3-14, td 6069 ft, redrlg in sand and shale.

MALIBU—Henry R. Dabney's Malibu 1, 32-1-8, rur.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, susp temp.

PICO CANYON—N. M. Frazer's No. 1, 31-4-16, dr 650 ft hd sand.

PUENTE—No. American Oil Consolidated's Smith 3-1, 30-1-10, dr sand and shale. York Oil Co., Sentous 1, 2-2-10, lcn.

RICHFIELD—Leaseholders Dev. Co.'s Vejar 1, 26-3-9, td 4056 ft co.

SANTA ANA — Continental's Santa Ana Comm. 1, 14-5-10, spd Sept. 25; 24-in stg cmtd.

SAUGUS—International Oil Developers' Powell 2, 34-5-16, rur. Tech spud on Sept. 22.

TOPANGA CANYON—Monarch Pet. Co., Sylvia Park 1, 5-1-16, td 212 ft.

TORRANCE—Eyers Pet. Corp.'s No. 1, 20-4-13, td 50 ft, idle. Pioneer Holding Co.'s Pioneer 1, 33-3-14, moving in rotary.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 5, 11-11-5, td 520 ft, shale thin streaks sand 997 ft. Hillman-Long's Pellissier 1, 2-3-8, dr hard sand 2116 ft.

COLORADO

ARCHULETA COUNTY—Wm. E. Hughes Estate Fee 2, sw 24-3n-2e, dr 1080 ft with good sh.

BOULDER COUNTY—Leslie R. Steele et al Maxwell 1, sw ne nw 24-1n-71w, dr 1925 ft.

JACKSON COUNTY — Continental Oil Co. Hoye 3, nwc ne 34-9n-78w, dr black shale and bentonite 4850 ft.

PARK COUNTY—South Park Oil Co. State 1, se se sw 16-11s-17w, dr cut cement 3552 ft.

PROWERS COUNTY—Trojan Oil & Gas Co. Lotus 1, nw ne ne 15-23s-46w, dr 5600 ft.

FLORIDA

HILLSBOROUGH COUNTY—Southern Pet. Co.'s Mizell & Williams 1, se ne 4-32s-21e, fsg hung drill pipe at 1000 ft, td 2465 ft.

JACKSON COUNTY—Ray L. Estabrook et al's fee not given, ne nw se 15-5n-9w, lcn.

LAKE COUNTY—Oil Dev. Co. of Fla's Gulf Expl. Co. 1, se se 17-24s-25e, dr 2010 ft.

PINELLAS COUNTY—Dr. Edward A. Hill et al's W. I. Meyers 1, ne ne 2-27s-25e, dk.

POLK COUNTY—Dr. Edward A. Hill et al's Polk County Lbr. Co. 1, nw ne 32-25s-25e, dk.

BARBER COUNTY—Wentz' Skinner 1, cnw ne 29-31s-14w, td 4693 ft, D & A.

KANSAS

BARBER COUNTY—Wentz' Skinner 1 cnw ne 29-31s-14w, td 4693 ft, D & A.

BARTON COUNTY—Suppes & Witts' Hayes 1, nw nw nw 7-16s-15w, dr 3440 ft. Torry & Feaster et al's Feist 1, ne ne se 29-18s-11w, dr 2955 ft. Lario et al's Peter 1, nw nw nw 24-20s-11w, td 3291 ft, prod 24 bbls oil per hr. Continental Oil Co.'s Klug 1, cn n½ ne 18-17s-12w, td 3593 ft, D & A. Torry & Feaster et al's Kimpler 1, se ne ne 31-18-11w, sd 1800 ft. Witt et al's Murry 1, nw nw sw 14-17s-14w, spd and sd. Lario et al's Smith 1, sw nw nw 26-18s-13w, cellar.

BUTLER COUNTY—Western Kansas Prod. & Ref. Co.'s King & Marshall 1, nw nw sw 11-28s-6e, td 3048 ft, 11 bbls oil ½ hr, running 6-in csg. Mohawk Oil Co.'s Overstreet

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1, nw nw nw 19-26s-8e, dr 1530 ft. Palmer et al's Ellis 1, ne ne ne 7-25s-4e, running 12-in csg 1233 ft.

COWLEY COUNTY—Wakefield et al's Auman 1, se se ne 32-33s-3e, pb 3338 ft, 100 ft fluid in hole, to shoot. Winkler-Koch et al's Harlan 1-B, cnw ne 13-31s-7e, dr 475 ft. Earl Wakefield's Hanna 1, ne ne sw 2-31s-4e, ru. E. B. Shawver et al's Hanna 1, ne nw se 29-30s-3e, dr 455 ft. Johnson's Ferguson 1-A, nw sw se 17-30s-8e, mim. Carey et al's Short 1, ne ne nw 6-32s-4e, rig.

ELLIS COUNTY—Helmerich & Payne et al's Kuhn 1, nw sw ne 16-13s-20w, sd 3900 ft. Lewis Roark et al's Bemis 1, se se se 16-11s-17w, ur 6-in csg 3040 ft. Palmer & Storm King's Bowlby 1, ne nw nw 13-11s-16w, dr 2715 ft. Twin Drlg. Co.'s Goetz 1, sw sw se 3-14s-17w, rig.

ELLSWORTH COUNTY—Franco Central Pet. Co. et al's Erevert 1, sw sw sw 8-17s-10w, 2000 gals acid, pumped 2½ bbls oil per hr. Keith et al's Schepmann 1, sw sw nw 22-17s-10w, dr 2690 ft. Slick, Pryor and Lockhart et al's Sturn 1, nw nw sw 26-17s-10w, cellar. Gypsy & Texas Co.'s Lapham 1, sw sw sw 27-16s-7w, br. Tom Palmer's Splitter 1, nw ne se 17-17s-8w, br.

GRAHAM COUNTY—Helmerich & Payne's Stites 1, csw sw 8-19s-22w, sd 4220 ft. Vickers Pet. Co. et al's Hutton 1, ne ne se 29-8s-22w, sd 85 ft.

HARVEY COUNTY—Goering Bros.' Brainard 1, ne ne sw 3-23s-2w, dr 3490 ft.

KINGMAN COUNTY—Lauck et al's Skilling 1, se se sw 33-27n-8w, woc at 300 ft.

LOGAN COUNTY—Alma Pet. Co. & McNelley's Watchorn 1, csw ne 13-15s-33w, fsg 4090 ft.

McPHERSON COUNTY — Carey et al's Husband 1, se se nw 6-19s-13w, fsg 3055 ft. Wentz' Holdeman 1, nw nw se 16-18s-1w, fsg 3355 ft.

PRATT COUNTY—Skelly et al's Gilchrist 1, cse ¼ 7-28s-11w, dr 2915 ft.

RENO COUNTY—Allison - Fitzwilliams et al's Dukelow 1, ne ne ne 11-22s-8w, ur 6-in csg 3584 ft. Hayes Bros. et al's Mueller 1, se se nw 30-24s-4w, pot of 239 bbls oil. Stanolind-Amerada's Hilgard A-1, ne ne sw 21-26s-4w, Whipstock at 3823 ft. Shell Pet. Corp.'s Reese 1, cw½ w½ sw 11-26s-9w, coring 4151 ft. McPherson Drlg. Co. et al's Miller 1, ne ne nw 34-24s-5w, td 3437 ft, rust. Foraker et al's Hiett 1, se sw ne 34-24s-4w, sd 1485 ft. Gormley's Duwe & Dustin 1, cne nw 17-24s-7w, br.

RICE COUNTY—Aylward et al's Rickard 1, sw sw nw 22-18s-9w, td 3400 ft, pb 3365 ft, 201 bbls oil. Douglas & Hutchinson O. & G. Co.'s Hammell 1, ne ne ne 16-19s-10w, dr 3166 ft. Anderson-Kerr's Wernet 1, nw nw nw 24-20s-9w, dr 3354 ft. Aylward et al's Haas 1, ne nw ne 4-19s-10w, dr 2450 ft. James Davis' Bernstarf 1, sw sw sw 19-19s-10w, dr 1748 ft. Continental Oil Co.'s Ferguson 1, se nw ne 8-18s-7w, td 3229 ft. Detrick et al's Conner 1, cne ne 28-19s-7w, dr 2075 ft. Empire O. & G. Co.'s Schroeder 1, sw se se 7-18s-9w, br.

ROOKS COUNTY—El Dorado Ref. Co. et al's Marshall 1, cse se 8-7s-17w, ur 12-in csg 1841 ft. Tree Oil Co. & Findeiss' Johnson 1, sw sw se 26-10s-19w, td 3349 ft, 256 bbls oil, comp. Lario et al's Fisher 1, ne ne ne 22-10s-18w, dr 2830 ft. Gillespie & Son's Low 1, ne ne nw 12-6s-18w, dr 1440 ft.

RUSH COUNTY—Ramsey Pet. Co. et al's Darkes 1, sw sw nw 5-17s-20w, dr by. Gypsy Oil Co.'s Krasinger 1, se ne se 23-16s-17w, dr 3689 ft.

RUSSELL COUNTY—Roth & Farrout's Shaffer 1, nw nw ne 31-13s-12w, td 3002 ft, pb 3000 ft, no test. J. Brouk & R. D. Bailey's Kluesner 1, nw nw se 34-15s-12w, running tubing to test. Nassau Oil Corp.'s Karst 1, nw sw ne 27-15s-14w, dr 3176 ft. Coraleana's Berrick 1, ne nw ne 6-15s-13w, co 2008 ft. Hartman & Blair et al's Claussen 1, se ne sw 34-12s-14w, set 6-in csg 2989 ft, dr plugs. Johnson et al's Mermis 1, ne ne sw 29-13s-15w, ru. Central Pet. Co.'s Boxberger 1, nw nw nw 36-15s-15w, ru.

SEDGWICK COUNTY—Dickey et al's Chase 1, se se se 11-27s-2e, woc at 3180 ft. Derby et al's Bartholomew 1, sw sw nw 8-27s-4w, td 4155 ft, pb 4006 ft, to retest.

STAFFORD COUNTY—Rose Spring Drlg. Co. et al's Toland 1, nw nw sw 2-25s-14w, dr 4192 ft. Atlantic & Phillips Pet. Co.'s Cornwell 1, cne sw 4-25s-13w, cored 4060 to 4078 ft. Sedgwick Oil Co.'s Ellinwood 1, se sw sw 33-21s-11w, td 3679 ft, D & A.

SUMNER COUNTY—Winkler-Koch et al's Belsley 1, sw sw nw 2-32s-2w, dr 4007 ft. Wilson et al's Clark 1, csl nw 15-35s-1w, sd 1948 ft.

TREGO COUNTY—Hanse & Lauck's Lang 1, se se nw 1-14s-21w, sd 3745 ft. Vickers Pet. Co. et al's Secor 1, nw nw nw 25-15s-24w, ur 6-in csg 3920 ft.

WOODSON COUNTY—Saco Oil Co.'s Hassenpflug 1-A, sw nw ne 34-25s-14e, td 1509 ft, est 150 bbls oil. Coulter, Davidson et al's Paske 1, nw nw se 25-25s-13e, dr 850 ft.

NORTH LOUISIANA

BOSSIER PARISH—Ark. La. Gas Co.'s R. O. Roy 3, 18-17n-11w, dr 3770 ft. Bossier O&G Co.'s Sherrell 3, se se 13-19n-12w, hole clean, dd td 2025 ft. W. E. Neill et al's Curtis Plantation 1, se se 19-17n-12w, sd 235 ft. Producers O&G Co.'s E. C. Edwards 1, se sw 27-18n-11, sd 714 ft. Producers O&G Co.'s Pettit 1, ne sw 17-17n-11w, spd cemtd 12½-in csg 250 ft. A. H. Richardson's Nattin 1, ne sw 15-22n-14w, spd & sd. L. R. Skidmore's Davis 1, se se 12-18n-13w, sd 2592 ft. Douglas Spivey's Bossier Assn. 1, sw sw 16-18n-11w, sd 815 ft.

CADDO PARISH—W. F. Hyde's Thigpen-Herold 1, nw nw se 5-15n-15w, elev 281.8 ft, top Nacatosh 1143 ft co to deepen, td 1545 ft chalk. A. D. King's Roach 1, 4-14n-16w, sd 2712 ft chalk. Tystan, Inc.'s Jolly 1, 22-22n-16w, top red beds 2345 ft sd 2350 ft.

CALDWELL PARISH—Caldwell Drlg. Co.'s Gore 2, ne se 30-12n-3e, sand 750 ft sd 768 ft. Critchett & Woods' Kyle 1, 18-11n-3e, pb to 1610 ft td 2228 ft. G. W. Zeigen et al's La. Cent. Lbr. Co. 1, nw sw sw 25-13n-3e, sd 1190 ft.

CATAHOULA PARISH—McIntyre et al's Tensas Delta 1, sw nw se 18-10n-2e, 10-in csg, 110 ft. Phillipi et al's La. Cent. Lbr. Co. 2, nw nw 41-9n-6e, dk.

CLAIBORNE PARISH—J. H. Lester's Zollie Green 1, nw ne nw 18-21n-6w, spd. E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, elev 357.3 ft top red beds 3460 ft dr 3500 ft red shale. Ryan Oil Corp. et al's Gladney 1, ne sw 27-20n-7w, rur.

DE SOTO PARISH—Century O&D Co.'s D. Bailey 1, ne sw 25-11n-14w, dr 1700 ft chalk. Jal Drlg. Co.'s Scales A-1, se se 35-13n-12w, dr 630 ft. C. T. Ruffin's Elmo P. Lee 2, nw sw 3-14n-13w, sd for water 960 ft. Ed Safford et al's Thigpen 1, sw ne 33-13n-13w, owdd, td 1732 ft chalk. Snow Drlg. Co.'s Stell 1, 5-12n-16w, arr deepen 200 ft. M. L. Stephens et al's Alston 1, ne sw 11-11n-16w, wosr 2055 ft. The Hunter Co.'s S. J. Moats 1, ne sw 25-12n-15w, spd.

GRANT PARISH—Alexander et al's Maxwell 1, 9-9n-1e, sd 520 ft.

LINCOLN PARISH—Lide & Greer's Fowler 1, nw sw se 10-17n-4w, top Nacatosh 2275 ft, top Annona chalk 2377 ft, base chalk 2650 ft, anhydrite 4635-5084 ft top oolitic lime 5101 ft, dr 5232 ft, lime & shale.

MADISON PARISH — Southern Land & Explor. Co.'s Deltic Inv. Co.'s 1, nw nw 1-17n-12e, arr deepen 2048 ft.

NATCHITOCHES PARISH — Edwards & Turner's Prudential Life Inc. Co. 1, nw nw 26-10n-6w, lcn abd. Roy Raines et al's Raines 1, sw sw 28-9n-10w, co to deepen td 4232 ft shale. Union Pet. Co.'s DeBlieux 1, ne nw 83-10n-7w, sd cur titles 1485 ft.

OUACHITA PARISH — American Liberty Oil Co.'s Golson 1, nw nw 25-17n-1e, top upper Glen Rose 3942 ft dr 5132 ft lime.

RAPIDES PARISH — Amerada Pet. Co.'s Weil 1, 53-1s-2e, tested 4 thribbles oil & one thribble sw through ¼-in choke on tub 5704-52 ft arr deepen.

WEBSTER PARISH—Bennett et al's Fulbright 1, ne ne 1-18n-10w, dr 2310 ft.

WINN PARISH—P. E. Parsons et al's Tremont Lbr. Co. 1, nw sw 10-12n-10w, top Cane River 960 ft slight so in sand 1053 ft arr core td 1062 ft.

SOUTH LOUISIANA

CALCASIEU PARISH—Fred Oil Co.'s Faist 1, sec 26-8s-10w, sd 4025 ft. Wheeler Oil Co.'s School Land 1, s of Iowa field, sec 16-9s-7w, sd 6900 ft.

CAMERON PARISH—Magnolia's Broussard 1, Willow Lake area, sec 13-12s-9w, dr shale 8349 ft.

EVANGELINE PARISH—Sparks-Mitchell & Jacobson's Vidrine 1, sec 47-3s-2e, dr shale 1260 ft.

EAST BATON ROUGE PARISH — Superior's Duplantier Community 1, University Block, sec 65-7s-1w, dr sand and shale at 10,241 ft.

IBERIA PARISH—Texas Co.'s Fausse Point 1, s flank of dome, sec 35-11s-8e, fsh 6400 ft. Jefferson Lake Oil Co.'s Lake Pigneur 274, Jefferson Lake, 12s-5e, dr shale 7945 ft.

PLAQUEMINES PARISH—Wrather et al's Hero 1, near Oakville, sec 72-14s-24e, dr shale 4606 ft.

ST. BERNARD PARISH — Emerald Pet. Co.'s Shell Beach Properties, Shell Beach prospect, sec 31-13s-15e, dr shale 2240 ft.

ST. MARY PARISH—F. F. Kramer's Robinson 1, sec 78-14s-14e, lcn.

ST. MARTIN PARISH—Texas Co.'s State Lake Mengouloi 1, 3 mi n of Bayou Chene, sec 10-9s-9e, dr shale 3843 ft. Tide Water Oil Co.'s Smede 1, St. Martinsville prospect, sec 57-11s-6e, dr shale 4385 ft.

ST. TAMMANY PARISH—Danciger Oil & Refining Co.'s E. F. Holdsworth 1, Slidell prospect, sec 26-9s-14e, ru.

MICHIGAN

BAY COUNTY—M. C. Fordyce's Suszko 1, 18n-3e-11, testing so 2036 ft, Traverse. McClanahan Oil Co.'s Dahike 1, 17n-4e-27, dr 1400 ft.

CLINTON COUNTY — John F. Martin's Scott 1, 8n-2w-22, rig.

GLADWIN COUNTY — United Producers' Nettleton 1, 17n-2e-24, dr 900 ft.

GRATIOT COUNTY—St. Louis Pipe's Loganbach 1, 12n-2w-10, sd 3200 ft; North Mutual 1, 12n-4w-25, dr 3210 ft. Jackson-Myers' Garner 1, 9n-4w-10, dr 2900 ft. A. J. White's Hallett 1, 12n-4w-31, br. Charley Bell's Velie 1, 12n-1w-13, skid rig, 100 ft, hole lost.

IONIA COUNTY—Gordon Oil Co.'s Muir Bank 1, 8n-5w-30, sd 800 ft. J. V. Wicklund's Cutler 1, 8n-6w-10, dr 2300 ft.

KENT COUNTY—National Mineral's Lewis 1, 10n-11w-5, dr 1650 ft.

LENAWEE COUNTY — Socony-Vacuum's McCarbery 1, 5s-5e-36, lcn.

LIVINGSTON COUNTY—H. Snell et al's Zebb 1, 2n-5e-34, sd 5050 ft.

MASON COUNTY—Dragoon Dev.'s Young 1, 17n-15w-15, dr 2050 ft.

MIDLAND COUNTY — K. K. Leibrand's State 1, 15n-2e-32, sp.

MISSAUKEE COUNTY — M. J. Ingold's Donley 1, 22n-8w-31, rig.

MONROE COUNTY—A. V. Oil Co.'s Vandercook 1, 6s-6e-30, dr 800 ft.

MONTCALM COUNTY—Frank J. Asam's Pakes 1, 10n-6w-7, dr 1000 ft. Jetter & Lima's Long 1, 9n-6w-1, dr 2900 ft. Rex Oil Co.'s Newland 1, 12n-8w-2, dr 3100 ft.

OSCEOLA COUNTY—Sun Oil Co.'s McLachlin 1, 17n-8w-35, dr 3400 ft. L. B. Ayre's Bertz 1, 18n-7w-21, rig.

SAGINAW COUNTY—King Drilling Co.'s Kube 1, 12n-2e-31, dr 1500 ft.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, sd 1614 ft.

FRANKLIN COUNTY—Fred E. Courson et al's Homochitto Lbr. Co. 1, se sw 31-6n-2e, installing new drilling line, td 2204 ft.

GEORGE COUNTY—Gulf Ref. Co.'s Dantzler Lbr. Co. 8, nw se 10-2s-9w, sd 3305 ft. United Gas Pub. Serv. Co.'s Williams 1, sw sw 6-1s-5w, dr 2263 ft.

HINDS COUNTY — Weaver & Alexander's McLaurin 1, nw nw 30-6n-2e, dr 2337 ft rock.

LAFAYETTE COUNTY—W. L. Stewart et al's Russell 1, 9-10s-1w, 10-in 540 ft sd 1610 ft.

RANKIN COUNTY—Cleve Love et al's Mills 1, se sw 7-5n-2e, elev 272 ft top chalk 2447 ft making est 2 mil ft gas & some 13 grav oil with sw, wo gauge, td 2454 ft.

WARREN COUNTY—Harry W. Elliott's R. L. Parker 2, 14-14n-1e, elev 80 ft co to deepen, td 1602 ft.

WASHINGTON COUNTY — Mid-Continent Developments' Lee 1, 33-15n-8w, arr deepen td 2100 ft.

WINSTON COUNTY—Jack Vale's Moody 1, nw sw 3-13n-14e, elev 540 ft 6-in csg 2216 ft td 2225 ft.

MONTANA

CARBON COUNTY — Bailey Round Butte Oil Co.'s Test 1, ne se 3-6s-22e, dr 1362 ft.

FERGUS COUNTY—Emmons et al's 1, ne ne 6-20n-17e, dr 2150 ft. Judith Operating Co.'s Government 1, csw sw 26-22n-17e, dr 400 ft.

GALLATIN COUNTY—Montana Gas & Petroleum Co. (Ben W. Ryan et al) Tice 1, ne ne ne 28-1n-2e, dr 2618 ft.

PARK COUNTY—Ben W. Ryan 1, ne 28-2n-11w, rigged.

STILLWATER COUNTY—Continental Oil Co.'s Parker 1, se sw 25-5s-17e, dr 1580 ft.

NEW MEXICO

BERNALILLO COUNTY — Norins Realty Co. Pajarito Grant 1, nwc ne 29-9n-1e, new lcn and dr 386 ft.

CHAVES COUNTY—John Tannehill's Campbell 1, ne se 1-11s-25e, ur 6⅝-in csg 1061 ft.

CURRY COUNTY — Schoonmaker et al's Hart 1, cse se 13-2n-31e, abdn 100 ft.

DE BACA COUNTY—Mid-Continent Engineering Association State 1, nw se 27-4n-22e, rig up.

EDDY COUNTY—Getty Oil Co.'s Dooley 7, se nw 24-20s-29e, dr black lime 6436 ft.

SANDOVAL COUNTY—Continent Oil Co.'s 1 Bar Cattle Co. 1, se 2-13n-4w, dr 4150 ft sand and lime.

TORRENCE COUNTY—48 Petroleum Co. Greenfield 1, cnw sw 17-9-8e, ur 632 ft, td 750 ft.

EDDY COUNTY — Geo. F. Getty Oil Co.'s Andrew Dooley 7, swc nw 24-20s-29e, elev 3309 ft, so&g in black lime 6417-36 ft, coring 6436 ft.

LEA COUNTY—Amerada's M. J. Byrd 1, c ne nw 12-20s-36e, Monument area, lcn. Barnsdall Oil Co.'s J. W. Cooper 1, c ne ne 12-20s-36e, Monument area, elev 3567 ft, dr 2215 ft. Culbertson & Irwin's Eva Brown 1, c ne ne 23-21s-32e, elev 3821 ft, top anhydrite 1415 ft, top salt 1580 ft, dry and abd 3602 ft; Sue Richardson 1, c sw se 10-21s-32e, elev 3808 ft, top anhydrite 1405 ft, top salt 1568 ft, dr lime 3840 ft. Gypsy Oil Co.'s Baxter V. Culp 1, c ne nw 19-19s-37e, Monument area, elev 3687 ft, lime pay 3910-70 ft, completed flowed 567 bbls oil 9 hrs nat'l via tubing; State-Graham (south) 1, c se se 2-20s-36e, elev 3579 ft, dr 1850 ft; Steve B. Taylor 1, c se ne 24-18s-38e, 2¾ mi ne Hobbs field, elev 3613 ft, sp. Jeffers Oil Co.'s C. Britt-Conoco 1, c se nw 7-20s-37e, Monument area, elev 3554 ft, top anhydrite 970 ft, salt series 1115-2270 ft, cem 8⅝ in cas 2622 ft, dr plugs. Harry Leonard et al's C. W. Justis 1, swc nw nw 20-25s-37e, elev 3067 ft, cem 5-3/16-in cas 3043 ft, td 3395 ft, sd for machine. Maljamar O&G Corp.'s Baish 5, c sw ne 21-17s-32e, Maljamar field, rig. Jim Murray et al's W. J. Wallace 1, sec 3-21s-36e, ne outpost for Eunice area, elev 3563 ft, top anhydrite 1255 ft, lime pay 3850-75 ft, used 3000 gals acid, flowed 128 bbls oil 3 hrs via open cas. N. G. Penrose & Rowan Drl. Co.'s Will Carry-Humble 1, c nw sw 22-22s-37e, mim. Phillips Pet. Co.'s B. V. Culp 1, c nw nw 19-19s-37e, Monument area, elev 3713 ft, flowed 202 bbls oil in 5 hrs on open gauge, not shot or treated, completed, td 3990 ft. Phillips & Pure Oil Co.'s Woolworth 1, lse 2, c ne nw 33-24s-37e, 3½ mi e of Cooper field, elev 3265 ft, top brown lime 2772 ft, dr 3100 ft; Woolworth 1, lse 4, c se sw 8-25s-37e, rig; Woolworth 1, lse 3, c sw sw 6-25s-37e, North Jal area, elev 3187 ft, top brown lime 2700 ft, cem 7-in cas 3040 ft, flowed 25 bbls fluid, 50% oil, and 1½ million ft gas in 20 hrs, td 3522 ft. Republic Prod. Co.'s Selby-Maveety 1, c se sw 35-19s-36e, elev 3614 ft, dr 1050 ft. Repollo Oil Co.'s M. J. Byrd 1, nec nw ne 11-20s-36e, Monument area, rig. Shell's State 1-B, c sw nw 36-19s-36e, Monument area, elev 3603 ft, used 2000 gals acid in lime 3934 ft, completed flowed 75 bbls oil per hr. Skelly Oil Co. et al's B. F. Harrison 1, c nw sw 5-23s-37e, rig. Sun Oil Co.'s W. B. Maveety-Weir 3, c se ne 35-19s-36e, Monument area, elev 3611 ft, fsh 2343 ft; H. S. Record 1, c nw nw 22-22s-36e, s Eunice area, elev 3539 ft, top anhydrite 1490 ft, salt series 1592-3015 ft, top brown lime 3030 ft, used 4000 gals acid twice, td 3844 ft, no results, est small pumper after shot 360 qts nitro in lime 3700-3844 ft. Superior Oil Co.'s State 2-A, c nw ne 2-20s-36e, elev 3603 ft, dr 1655 ft. Sam K. Vierson & Brown's W. D. Robinson 1, c nw se 14-11s-32e, elev 4355 ft, mim. Tide Water Oil Co.'s State 1, sec se ne 14-18s-37e, nw Hobbs field, elev 3689 ft, made dst at 4118 ft.

OKLAHOMA

ALFALFA COUNTY—Tex-O-Kan's Acre 1, csw ne 14-24n-11w, went out 5800 ft, dr 5978 ft.

ATOKA COUNTY—Vierson et al's Williams 1, ne sw nw 34-2s-10e, set 10-in csg 2180 ft, wocs. Mid-Continent Pet. Corp. et al's Fulton 1, sw sw sw 19-1s-12e, td 3000 ft, new contract to resume dr. Garner et al's Garner 1, ne nw ne 27-1n-15e, sd 490 ft. Pierce et al's Aetna Life Ins. 1, nw sw ne 10-1n-13e, td 1305 ft, D & A.

BEAVER COUNTY—Anderson-Kerr et al's School 1, csw se 36-5n-26 ECM, rur.

BECKHAM COUNTY—Martin's Hood 1, cne nw 7-8n-23w, dr 50 ft.

BRYAN COUNTY—Trio Oil Co.'s Gilbert 1, sw ne sw 25-6s-7e, set 6⅝-in csg 903 ft, td 914 ft, dr ahead.

CADDO COUNTY—Denver P. & R. Co.'s Sah-Cam 1, cse se 33-10n-10w, swaged out 13 ft pipe. Turner et al's Sapin 1, ne ne sw 1-5n-11w, sd 3118 ft. Lee et al's Horton 1, ne ne ne 9-6n-13w, fsg 730 ft.

CARTER COUNTY—Carter Oil Co.'s Humble-Williams 1, sw ne sw 27-2s-3w, dr 7820 ft. Louis Sikes' Byrd 1, sw se sw 4-2s-2w, spd.

CLEVELAND COUNTY—Hall-Briscoe Inc.'s Fant 1, sw sw ne 27-10n-2w, recemented, wocs. Arab Pet. Co.'s Kennedy 1, se se nw 16-7n-1e, sd 6687 ft. Sinclair Prairie Oil Co. et al's Lizzie Hasmann 1, sw se sw 21-10n-2w, td 7160 ft, set 9⅝-in csg 7140 ft, wocs.

COAL COUNTY—Carter Oil Co. et al's Thompson 1, csl ne nw 34-2n-9e, cored 5858 to 5869 ft.

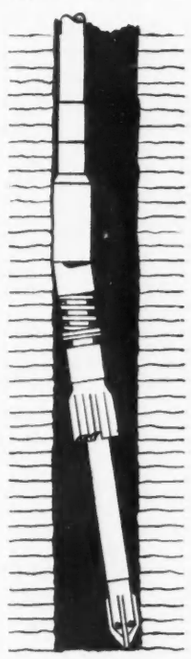
COMANCHE COUNTY—Stevens' Green 1, se se sw 2-1n-13w, dr 1881 ft. Imbodin et al's Smith 1, sw sw sw 12-2n-10w, sd 53 ft. McElreath & Suggett's Spencer 1, sw sw sw 21-3n-10w, lcn.

GARFIELD COUNTY—Sunray Oil Co.'s Shanks 1, sw sw ne 10-20n-4w, dr 1720 ft. Herndon Drlg. Co. et al's Whitaker 1, se se se 27-24n-3w, rur. Ross Cummings et al's Gage 1, se se nw 27-22n-3w, rust.

GARVIN COUNTY—Orbit Oil Co.'s Federal Bank Land 1-A, se sw sw 10-4n-3e, rig.

GRADY COUNTY—Sayre Oil Co.'s Anderson 1, ne ne se 36-4n-6w, lcn.

GRANT COUNTY—Stanolind's Crouse 1, cne sw 29-25n-8w, dr 6560 ft. Shell Pet Corp.'s Foster 1, nw nw se 30-27n-8w, coring 4635 ft. Wentz et al's Wirtz 1, se se nw 22-28n-4w, swaging 3790 ft. Westgate Oil Co.'s



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Clark 1, nw ne nw 17-29n-4w, td 4811 ft, est 1 to 1½ million ft gas.

HUGHES COUNTY—Texas Co.'s Keaton 1, nw nw sw 4-8n-10e, pb 3848 ft, to treat. Earl Sadler's Scott 1, nw nw nw 23-7n-9e, sd 1224 ft. Caprock Oil Co.'s Parks 1, sw sw se 34-7n-8e, sd 300 ft. Sivils et al's Montgomery 1, nw sw nw 7-9n-8e, dr 320 ft.

JACKSON COUNTY—Gypsy Oil Co.'s Boucher 1, nw sw sw 32-1n-19w, td 2607 ft, est 2½ million ft gas. Associated Oil Co.'s Harrell 1-A, ne ne se 13-1s-21w, dr 1360 ft. Palo Duro Oil Co.'s Ealum 1, sw sw se 16-2n-21w, td 2505 ft, D & A.

JEFFERSON COUNTY—Barrett's Mose 1, cn½ nw sw 9-6s-7w, dr 288 ft.

JOHNSTON COUNTY—Godfrey & Neff's Everets 1, se sw sw 20-4s-6e, td 390 ft, D & A. Equitable O. & G. Co.'s Bellsey 1, ne ne sw 12-2s-4e, rig. Godfrey & Neff's Everets 2, se sw sw 20-4s-6e, mach on lcn.

KAY COUNTY—Robinson Drlg. Co. et al's Hermes 1, sw sw nw 6-26n-4e, dr 3290 ft. Lewis Prod. Co.'s Hollenback 1, se ne se 18-27n-2e, dr 2745 ft.

KIOWA COUNTY—Connelly's McCord 1, nw se ne 15-1n-17w, set 6⅝-in csg 542 ft.

LE FLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, sd 377 ft.

LOGAN COUNTY—Anderson-Prichard & Buttram's Cavalt 1, nw sw se 22-16n-3w, dr 6075 ft. Stanolind-Amerada & Eason's Gragg 1, sw sw ne 20-18n-4w, fsg 5870 ft. Texas Co.'s Wood 1, sw sw ne 34-15n-4w, fsg dr pipe 6433 ft.

LOVE COUNTY—Sinclair Prairie Oil Co.'s Stockton 1, se se sw 26-6s-2w, dr 4706 ft.

MARSHALL COUNTY—Smith's Chestnut 1, ne ne ne 23-8s-5e, td 275 ft, mi mach.

NOBLE COUNTY—Atlantic Oil Co. et al's Strom 1, ne ne se 8-20n-1w, perf pipe 3470 to 3500 ft. Harry Chapple's Ragon 1, nw se nw 29-21n-1w, td 1805 ft, to shoot.

OKFUSKEE COUNTY—Sunray's Culla 1, ne sw ne 13-12n-8e, dr 3240 ft. Stanolind-Amerada's Washington 1-A, se ne ne 12-13n-7e, lcn.

OKLAHOMA COUNTY—Sinclair Prairie Oil Co.'s Corbett 1, ne nw ne 17-13n-3w, pb 6530 ft, est 10 million ft gas. Sinclair & Slick-Urschel's Kratky 1, se se ne 19-13n-3w, dr 3901 ft.

OSAGE COUNTY—J. A. Freeburg et al's 1, ne ne se 1-25n-6e, dr 2720 ft. Texas Co.'s Osage 1, sw sw se 22-24n-6e, dr 850 ft.

PITTSBURG COUNTY—Vaughn Prod. Co. et al's Chunn 1, ne se nw 29-4n-14e, cellar.

PONTOTOC COUNTY—Continental's McCarthy 1, csw nw 12-1n-7e, dr 4140 ft. McBride's Copeland 1, se se nw 31-4n-5e, sd 2100 ft. Delaney et al's Fox 1, nw se se 2-1n-7e, spd. Gypsy Oil Co.'s Emry 1, sw sw ne 15-2n-6e, lcn. Ada Pet. Co.'s Simmon 1, cwl nw nw 8-3n-6e, dr 2977 ft.

POTTAWATOMIE COUNTY—Ross Oil Co. et al's Sparkman 1, se se ne 33-8n-4e, rig.

PUSHMATAHA COUNTY—C. W. Whitehead's Messer 1, se sw sw 35-3s-18e, sd 3420 ft.

SEMINOLE COUNTY—Van Deventer et al's Bender 1-A, ne ne sw 3-8n-8e, td 3255 ft, 35 bbls oil, comp. Scott & Smith's Abb 1, se nw se 4-6n-6e, dr 3410 ft.

STEPHENS COUNTY—Franklin & Duncan's Woolsey 1, nw nw se 10-3s-6w, sd 900 ft.

TILLMAN COUNTY—Gypsy Oil Co.'s Schenck 1, se nw se 31-1s-16w, spd.

SOUTH TEXAS

ATASCOSA COUNTY—R. McIntyre's H. A. Billinck 1, J. B. Woodleff sur, No. 246, 7½ mi e Coughran, lcn temp abnd.

BANDERA COUNTY—Palm Winn Oil Co.'s R. B. Watson 1, A. Curver sur No. 71, 2 mi n Medina City, ur 2035 ft. Plateau Oil Co.'s R. G. Garrison 1, sec 506, GC&SF sur, 8 mi sw Medina City, elev 1831 ft df, dr 4280 ft.

BASTROP COUNTY — Batts & Jarmon's Mrs. Mary Harris 1, J. Maximillian sur, N. Dale area, elev 432 ft, df, sd 2285 ft. Joe Mills' W. W. Litton 2, A. Navarro sur, N. Cedar Creek area, coring 1850 ft. F. Wilson's M. C. Callahan 1, A. Mayes sur, dry and abnd, 2572 ft.

BEE COUNTY—Mills Bennett's Mrs. Wm. Rapp 3, C. A. Dugat sur, ab 521, w outpost Dirks field, dr 3950 ft. Hill, West & Kleiner's G. A. Ray 1, W. B. Blanchard sur, sw outpost West Tuleta field, dr 750 ft. D. V. Smith's B. B. Atkins 1, M. Woods sur, lcn. Worth Oil Co.'s Rutledge 3 (1-B), A. Hadley sur, Patent 34, 1/3 mi sw Rutledge pool, dr 1800 ft. R. J. Worthington et al's S. B. Chestnut 1, B. Q. Hadley sur, 2000 ft se Worth well, lcn.

BEXAR COUNTY — American Gas Co.'s Oliver 5, M. F. Rodriquez sur, Gas Ridge, temp abnd 2902 ft. James B. Cunningham et al's D. F. Ridder 1, Baerrera sur, abs 50, 2 mi e McDonna, running liner 860 ft. Fay T. Chew et al's Bonkowski 1, in 130-ac tr, sec 9, Jacinto Pena sur, 1½ mi e Adkins, lcn for 1250-ft test. Dorine Oil Co.'s S. Tudyk 2, blk 4, F. Cardenas sur, 18 mi e San Antonio, td 759 ft, set csg 575 ft, completing. Joe Deupree's R. S. Coffey 1-A, F. Rodriquez sur, 7 mi s of San Antonio, dr 275 ft. C. J. LeCompte's A. Herbst 1, M. Leal sur, 4 mi s San Antonio, sd 377 ft. McPhee & Briggs' Florence Lamb 1, M. de Luna sur No. 4, 22 mi s San Antonio, coring 2455 ft. Nick Marosis' Joe Florey Est. 1, 150 ft nl and wl 21.10-ac tr, Stephen Jett sur, at Von Ormy townsite, completing 672 ft. Mid-Tex Prod. Co.'s Walker 1, S. W. Dobie sur No. 79, 10 mi n San Antonio, lowering csg 1936 ft. J. H. Parker's McCloskey 1, F. A. Desaque sur, 5 mi nw Somerset, sd 760 ft. Carrol C. Raborn's Clad McCauley 1, Wm. Harris sur, No. 52, 4 mi s San Antonio, sd 965 ft. F. M. Shaver's A. W. Bitter 1, sp and sd. Fred Thorman's Sahm 1, Peter N. Hays sur No. 3, 2 mi s of Martinez, lcn.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morresey 2, T. H. Webb sur No. 11, 2¼ mi e Blanco City, lcn.

BROOKS COUNTY—United Prod. Co.'s K. J. Hocker 1, Palo Blanco de Maguelles gr, Palo Blanco area, sd 5351 ft. Winfield & Moser's W. Singer 1, se¼, sec 312, nw part of county, ru.

CALDWELL COUNTY—Ballard & Whiting's A. G. Bridges 1, S. Seal sur, td 2204 ft, top chalk 2048 ft, swabbing. S. S. Cargill's Damerau 3, 25 ft n No. 2 and 150 ft wl of tr, Dillard Cooper sur, Branyon area, prep to sp. C. & C. Fuel Oil Co.'s (Clark & Crouch), Jolly 1, 4950 ft nw fr nwl of W. House sur and 300 ft fr swl of Cornelius Crenshaw sur in Crenshaw sur, Larremore area, lcn. Detroit-Texas Dev. Co.'s W. P. Dunlap 3, S. F. Sanders sur, Dunlap area, testing 2322 ft. J. J. Elam et al's Tom Brown 1, Cyrus Souvereign sur, 5 mi e Luling, dk. R. Y. Walker's Walker Bros. 2, S. Seal sur, sd 385 ft, prep to dd.

CALHOUN COUNTY—Continental Oil Co.'s Am. Nat'l Realty Co. (Moody) 2, sec 6, blk C. P. Garcia sur, 9 mi se Seadrift, sd 7384 ft. Crown Central Pet. Corp.'s Wilson 1, A. Esparza sur, Port Lavaca area, td 6315 ft, ran electric formation test, pb 3300 ft to test. Halliburton Oil Prod. Co.'s D. Burton 4, M. Sanchez sur, Port Lavaca area, td 7460 ft, pb 6370 ft to sdtr. Matagorda Oil Corp.'s Brundrett Est. 1, Lot No. 294, Brundrett Estate, J. Power and J. W. Hewitson League 2, Matagorda Island, set 16 in csg 176 ft. Steinberger Pet. Corp.'s A. Hartman 1, A. Sanchez sur, Port Lavaca, comp. 6218-40 ft, comp 330 BPD, ½-in ch, TP 400 lbs, CP 825 lbs. Texas Co.'s A. Shofner 2, A. Sanches sur, Port Lavaca, completing 6234-45 ft, show little o&g.

CAMERON COUNTY—J. F. Anderson's Turfitt 1, blk 397 San Benito sub, Espiritu Santos gr, 3 mi ne Rio Hondo, dr 5300 ft. W. T. Daniels & King-Woods Oil Co's Port Isabel Co 1, center lot 17, shares 29, 30 and 31, Buena Vista gr, 6 mi n Bayview, sp & sd, wor.

DEWITT COUNTY—R. Bourke's Steinman 1, Uriah Blue sur, 6 mi s Yoakum, dr 2350 ft.

DIMMIT COUNTY—Diamond Half Oil Co's A. Eardley Est 1, R. G. Morgandale sur No. 6, ab 1322, 5½ mi nw Carizzo Springs, 1, dr sd 2185 ft, high pressure. Joe Lundin et al's Nueces Landa Irrigation Co. 1 lot 16, blk 7, Bermuda Land sub, 12 mi ne Carizzo Springs, lcn.

DUVAL COUNTY—Alpha Oil Co's M. C. Hubbard 1, sec 69 s of Loma Novia field, lcn. The California Co's Gruy Est 1, sec 157, in Kohler area, ru. Continental Oil Co's Clara D. Sevier 6-A, sec 447, Driscoll field, td 3435 ft, sand 3406-23 ft, ran csg to td, woc. J. H. Chandler's Rita De Pena 1, sh 4, Mesquite gr, elev 665 ft df, sd below 3250 ft. Howeth & Swiger et al's Rogers Est 1, 2310 ft nel, 1650 ft sel of sec 15, 9 mi nw of San Diego, lcn. P. K. Kelly's Tinney Est 1, sec 8, Piedras Pintas area, dr 416 ft. Chas. Kleiner et al's D. Ruiz 1, sec 125, nw Harvey & Henderson well, dr 2250 ft. Magnolia Pet Co's Duval Ranch 2, sec 100, Piedra Lumbre area, sand 1959-71 ft, 600 ft oil in hole, will pump; Emil Labbe 1, sec 2, Labbe District, wor. Marzo Oil Co.'s Hagist 1, blk 8, sec 269, 1 mi ne Eagle Hill, elev 460 df, Gov't Wells sand 2116-21 ft, pump rigged up, prep to test. Plymouth Oil Company's Cuellar 1-A, sec 123, G & M Railway sur, 1 mi s Harvey & Henderson well, sd 2915 ft, sw sand. Santa Clara Oil Co.'s Clara Driscoll Sevier 1, sec 7, ab 605, La Gloria Ranch, 12 mi nw San Diego, elev 560 ft, df, dr 3800 ft; R. C. Corbit 1, sec 92, G H & H RR sur, ne portion county, dr 2150 ft. Sun Oil Co. & Simms Oil Co. Warden & Drought, sec 151, 6 mi nw Gov't Wells, td 1581 ft, sandy shale 1570-77 ft, sand 1577-81 ft, csg 1568 ft, comp 5 BPH, ½ in choke, tp 65 lbs, cp 125 lbs. Sun Oil Co.'s J. O. Sutherland 1, sec 122, Hoffman area, lcn. Stanolind O&G Co.'s Ira G. Yates 1, sec 416, Labbe area, sd 2948 ft, 2000 ft, woc. Texas Co. & Ohio Fuel Oil Co.'s Duval County Ranch Co. 1, sec 96, Piedra Lumbre, lcn. Texla Oil Corp's Nueces Land & Live Stock Co. 1 sw ne sec 101, 5 mi nw Eagle Hill, ru.

EDWARD COUNTY—Paul Teas' B. J. Stewart 1, se¼, sec 2, GC & SF sur, lcn for 6000 ft test.

FRIO COUNTY—W. D. Bacon et al's J. E. Burns 1, T. H. Clifton sur, sw Bigfoot, dr 1000 ft. Midland Oil Co.'s Halff & Oppenheimer 1, se¼, sec 11, John Gibson sur, nw Pearsall, set 200 ft sur csg.

GOLIAD COUNTY—Brown & Wheeler's Kauffman 1-C, blk 14, G. Southerland sur, Hords Creek, dr 3950 ft. Keystone Royalties Co.'s C. B. Wood 2, John Shearn sur, 3 mi e Berclair, dr 2700 ft. Sun Oil Co.'s J. R. Kauffman 1, T. T. Trevino sur, 1 mi ne Hords Creek field, lcn.

GONZALES COUNTY—Forrester Oil Co.'s H. B. Steen 1, N. M. Bane sur, s part of county, sd 150 ft. Inter-Allied Pet. Corp's C. M. Wells 1, tr 3, sub 1, Jose de la Baume sur, sd 1175 ft for fuel. Resource Oil Co.'s Otto Lanbeck 1, J. M. Salinas sur, 3 mi w Gonzales, sp & sd.

GUADALUPE COUNTY—J. E. Clark's J. F. Larison 1, G. DeWitt sur, ab. 16, 330 ft sw Clark's Lay 1, dr 2150 ft. F. N. Gallagher's W. B. Lay 1, J. K. Davis sur, lcn. Gode et al's Hicks 1, E. de los Santos, elev 808 ft, df dry & abnd 1965 ft. Grace et al's O. S. Ogletree 1, Robt. Smith sur, 1 mi sw Prairie Lea, dry & abnd 2245 ft. Jim Harper et al's J. Z. Fulcher 3, Robt. Smith sur, 2 mi nw Prairie Lea, sd 1650 ft for csg. Kniffin & Gallagher's Stagal-Lay 1, Davis & DeWitt sur, dr 525 ft. Hopkins et al's F. C. Gabriel 1, 150 ft sel and swl of 65-ac tr, Geo. Allen sur, within city limits of Staples, sp. A. D. Locke's Mrs. N. S. Lowman C. Campbell League, 1½ mi sw Stephen, sd 1810 ft. Mineral Corp. of Texas' Allen Phillips 1, Cortines sur, 10 mi sw Seguin, sd 868 ft. R. C. Robbins' Mrs. J. W. Manford 1, 1250 ft sel and 750 ft swl James Hodges sur No. 374, 1250 ft e Manford Pool, prep to sp. Suttle et al's Baenzinger 1, A. O. Manchola sur, sd 2155 ft.

HIDALGO COUNTY—D. M. C. Oil Co.'s Daskem 1, blk 34, por 45, 4½ mi ne Samfordyce field, td 4114 ft, to reset at 2400 ft. Gulf States Oil Co.'s Delta Orchards 1, 400 ft wl, 500 ft nl of lot 2, blk 73, Las Mestinas gr, 1 mi s Mestinas field discovery well, dk, mir. Lensgraf-Walden-Carmen's Brock & Showers 1, lot 4, blk 12, por 80, Juris of Reynosa, 12 mi nw Mission, ru. S. J. Sloan et al's Brock & Showers 1, lot 9, blk 16, por 80, Juris of Reynosa, w of Mission, dr 5315 ft. Stevens & Mundy's F. B. Guerra 1, tr 12, por 41, 2000 ft n Samfordyce field, elev 188 ft, df, td 3030 ft, set csg 2990 ft, wocs. Union Sulphur Co.'s ARGL & I Co. 4, lot 1, blk 99, N. Capisallo district, Llano Grande gr, 1½ mi sw discovery, dry & abnd 7757 ft; ARGL & I Co. 5, lot 2082, N. Capisallo district, Llano Grande gr td 7529 ft, set csg on bottom, wocs; ARGL & I Co. 6, tr 2358, blk 49, N. Capisallo district, 4500 ft ne of Mercedes field, ru.

JACKSON COUNTY—Smith & McDonald's Mauritz Bros. 1, 466 ft wl, 394 ft sl 80-ac lease, Cummings sur No. 1 (Pure Oil Co. lease), Mauritz district, dk.

JIM HOGG COUNTY—Macon Pet. Co.'s Y. Gomez 1, sec 1005, dr 1825 ft. Miller et al's Yeager 1, blk 6, sec 20, sd 3530 ft. G. C. Rankins' Vela 1, blk 6, sec 5, temp abnd 50 ft.

KARNES COUNTY—Mart Pet. Corp's Cochran 1, McConnell League, sp&sd.

KENDALL COUNTY—J. E. Freeman's Gerfer's 1, Mark Hodgson sur, No. 796, sd 102 ft. Southwestern Dev. Synd, Ltd's Willie Werner 1, Torrey sur, No. 781, Sisterdale area, dr 665 ft.

KERR COUNTY—Auld & Evan's Heffner 1, sec 13, BS & F sur, ru. Jeff Love & Eastland Oil Co.'s Jeff Love 5-E Martinez sur, sec 1594, ½ mi se original Love Ranch test, td 5625 ft, move in csg.

KIMBLE COUNTY—Forest Dev. Co.'s Stapp 1, sec 682, ru Wilcox O&G Co.'s Patterson 1, sec 1, D & P Ry. sur, ab 915, dr 4000 ft.

KLEBERG COUNTY—Harry Clark's W. S. Rogers 1, lot 1, blk 36, Kleberg sub, sd 750 ft. Fidelity Exploration Co. Synd's Paul O'Henry 1, lot 2, sec 49, KT & I sur, dry & abnd, 3027 ft. R. G. Flato, Trustee 1, blk 14, sec 40 KT & I sur, Kingsville area, lcn. Parr & Ponder's Sam Michalk et al 1, lot 5, blk 37, KT & I sur, sd 1983 ft.

LA SALLE COUNTY—O. N. Beer & C. L. Witherspoon's La Salle Co. 1, 1320 ft sl and wl sec 19, near Fowlerton, ru.

LEE COUNTY—Douglas Spivey et al's First Nat'l Bank (T. S. Henderson) 1, Wm. L. Mock sur, lcn.

LIVE OAK COUNTY—Benco Oil Co.'s Eliz Mahoney 1, Mark Killely sur, 3 mi w Three Rivers, sd 78 ft. Earl Callaway et al's W. R. Lyne 1, sec 74, M. M. Lyne sur, ab 763, sp & set sur csg; Moozegemba 1, lot 122, Geo. Est sub, blk A, ab 113, S. L. Williams sur, lcn. Conway & Buescher's Sanger 1, GC & SF sur No. 383, ab 636, 15 mi sw George West, dr 1000 ft. Houston Oil Co.'s G. Frederick 2, blk 19, Jane Curry sur ru & sd. Lion Oil & Refining Co.'s Dick Dobie 1, tr in GH & H sur No. 23, s edge of McNeill field, dr 3500 ft. Slick-Urschel Corp's Watson & Shipp 1, P. Salinas sur, Fort Merril area, lcn. Smith & Story's Dinero Townsite 2-A, Jane Curry sur, North Lucas area, lcn. J. O. Whittington's

Little 3, M. M. Shipp sur, 660 ft sw discovery well, McNeill (north) area, dr 3550 ft.

MAVERICK COUNTY—Thompson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY—Aransas Oil Co.'s M. H. Reed 1, J. A. Spicer sur No. 70, 12 mi sw Tilden, sd 1681 ft. Darby Pet. Corp's E. R. Hagist 1-B, 6 mi w Loma Alta field, mir. L. O. Gleason's Fitzpatrick 1, J. A. Loving sur No. 52, dr 950 ft. Howard & Carpenter's Jungman 1, M. Hely sur sd 1210 ft. Marzo Oil Co.'s E. R. Hagist 1, southern part of county, making lcn. L. D. Ormsby's Griffith 4, Osborne sur No. 50, sd 122 ft. C. W. Points et al's Fahler 1, Geo. Pittuck sur, 5 mi w Calliham, sd 1004 ft. Stephenson & Wuest's Fisher 1, R. O. O'Boyle sur, nw of Calliham, testing 476 ft. Wilkerson & Lightfoot No. 6 H. L. Lark, blk 113, Lark sub, Scrugham sur, completing 1042-50 ft.

MEDINA COUNTY—Frank A. Brown's A. E. Brueks 1, John Ward sur, dr 375 ft. Carroco Oil Co.'s (Callahan & Roberts) H. Taylor 2, A. Brushet sur No. 135, 5 mi sw Hondo, dr 305 ft. Joe Deupree's Hugo Batot 2, John Ball sur No. 1478, 7 mi sw Hondo, dr 410 ft. E. J. Deupree's L. J. Bruecks 1, Henry Castro sur No. 248, dr 630 ft. Eckert & Sons M. Keller 1, Northington sur No. 8, dr 1050 ft. Ed Falvey et al's McMenemy 1, 160 ft se cor of sur No. 33½, G. Petty sur, 4 mi se Devine, mim. Gates & Hill's Odom 2, H. Castro sur No. 174, 5 mi sw Hondo td 280 ft, woc. Letro Oil Corp's F. B. Forest 1, sec 69, 1½ mi ne Ina field, 1½ mi Adams field, dr 425 ft. Scoggins and Sanders' L. W. Burell 1, M. E. Gage sur, elev 867 ft, dr 1930 ft.

NUECES COUNTY—J. K. Culton's H. B. Baldwin et al 1, blk 20, Russell Farm Blocks, 1½ mi w Corpus Christi, ru. Gilcrease Oil Co.'s W. W. Sanders 1, BS & F sur, No. 165, ab 55, dr 2150 ft. La Jita Corp's Richard King Est 1, se¼, sec 22 Richard Ranch sub, ne discovery well, King field, coring 5880 ft. Magnolia Pet. Co.'s Bobby Baldwin 2, BS & F sur No. 165, 3000 ft sw discovery, sd 5636 ft; Bobby Baldwin 3, BS & F sur No. 165, sand 3872-76 ft, put on pump. Richardson & Thomas' Page Bros. 1, Geo. Franks sub, w Saxet field, dr 5320 ft. Shell Pet. Corp.'s Ed. F. Flato 1, trs 9 & 10, H. H. Sheppard Farm Lots, coring 6000 ft. N. M. Wilson et al's (Bluff Pet. Corp.) Bluntzer 1, sh 6, Bluntz Lands, Casa Blanca, 10 mi n Banquette, sd 200 ft, account high water.

REAL COUNTY—H. J. Heartwell et al's L. J. Haby 2, AB & M sur No. 175, 10 ft sand just below 3220 ft, prep to shoot with 50 quarts, and test.

SAN PATRICIO COUNTY—Argo Royalty Co & Willie Storm's Nancy Hobbs 1, Delgado gr, 1 mi s Mathis, sd 3520 ft. Benedum & Trees' E. H. Welder 1, sec 34, Welder sub, 2½ mi w of Plymouth field, ru. Conroe Dr. Co.'s E. H. Welder 1-G, 330 ft nl of sec 47 and 330 ft w of Chiltipin Creek, s end of Plymouth field, set sur csg, wocs. Magnolia Petroleum Co.'s Corpus Christi Bank & Trust Co. 2, H. H. Hunter sur, s of Plymouth field, sand 5907-11 ft, dr out plugs. Plymouth Oil Co.'s E. H. Welder 17-C, on n line sec 49, Welder sub, north outpost well Plymouth field, dr 4350 ft. Sun Oil Co.'s J. M. Hunt 1 (blks 5 & 6), sec 34, Taft Farm Tracts sub, se Plymouth field, sp & set sur csg.

STARR COUNTY—Ash & Tackett's Margo 1, blk 4, sh 3-B, por 70, dr 325 ft. Barnsdall Oil Co. & Phillips Petroleum Corp's Yturri Land & Cattle Co. 2, por 100, 660 ft nw of Samfordyce Production, lcn. John H. Clopton's Roos & Bennet et al's 2, por 92, dr 200 ft. Evans & James' Ferry 3, por 76, 2 mi w Rio Grande City, sp. McCurry & Yates' Starr County Cattle Co. 1, 510 ft nl of blk 58, J & L sub, por 89, Barbacoas area, lcn. A. Nix et al's Star County Cattle Co. 1, blk 58, J. L. sub, por 89, Barbacoas area, reinstate, formerly abnd 2817 ft, ran electric formation tester, pb and sd/tr 1853 ft. Pedernal Oil Co.'s Sarah Welch 2, lot 3, Welch sub, El Pedernal gr, ru. H. J. Porter et al's Garcia Land & Cattle Co. 1, blk 6, por 100, 1400 ft w of Samfordyce field, sand 2809-15 ft, cleaning 5/32 inch tubing choke, tp 50 lbs, cp 200 lbs.

TRAVIS COUNTY—G. A. Arts' Rolff 1, Thos. Hancock sur No. 20, ½ mi n Sweden sd 860 ft. W. O. Caffey's C. C. Nelle 1, G. Gates sur, sp. C. B. Collard's J. Blomberg 1, Windburn sur, sd 660 ft. J. E. Robertson et al's J. F. Smith 1, L. Kimbro sur, sd 715 ft.

VICTORIA COUNTY—Barnsdall Oil Company & Felmont Oil Corp's J. M. Pickering 1, S. A. & M. G. sur, ab 305, Placedo area, completing 4772-81 ft; W. R. Smith 1, A. Murray sur, of Placedo field, ru. Eastern Texas Oil Co.'s Henderson & Pickering 1, blk 19, Benavides sur, Placedo area, td 6029 ft, no rept; J. E. Schovajsa 1, lot 14, Rupley sur, Placedo area, dr below, 4789 ft. E. L. Smith Oil Co. & Gulf Prod. Co.'s S. E. Wright 1, J. M. Bronson sur No. 8, Placedo area, flowing wash water 4750 ft. Sun Oil Co.'s J. J. Marek 2, SA & MG Ry sur No. 9, Placedo area, ru. The Texas Co. et al's J. J. Warden 1, Edward McDonough League, 12 mi s Victoria, td 5629 ft, set csg on sand 4488-96 ft in sd/tr hole.

WEBB COUNTY—D. E. C. Oil Co.'s Slator Ranch 1, blk 29, Mission Oil Company sub, Slator Ranch, J. S. Borrego gr, dr 375 ft. O. W. Killam's A. M. Bruni 40, blk 32, sec 10, Foltz sub, Mariana Arispe gr, dr 3575 ft. C. H. Lewis et al's E. Lopez 1, sur 110, 2 mi s of Lopez field, dr 650 ft. Magnolia Pet. Co.'s Volpe Bros. 1, sec 485, n of Carolina-Texas field, dr 50 ft. R. E. Misner's Garcia 1, se¼, sec 457, dr 1870 ft. Senator James Neal et al's Laurel 1, sec 1119, CCSD & RGNG sur, 3 mi e Mirando City field, lcn temp abnd. South Texas Oil Co.'s Laurel 1-A, blk 2, sur No. 269, Laurel area, dry & abnd 3165 ft. W. H. Vernor Tr's Jeffries Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, sd 40 ft. A. H. Wray's Geo. Steumpke 1, sh 1, Brewster Pasture, Joaquin Galan Grant, dr 1400 ft, last rept.

WILLACY COUNTY—King-Woods Oil Co.'s Stillman Ranch 1, lot 16, blk 30, sh 44, Stillman Ranch sur, San Juan Carricitos gr, td 6516 ft, ran electric formation test, will set csg 6300 ft. L. & S. Dr. Co. & South Texas Dev. Co.'s F. Armendiez 1-A, Little Share 4, sd 5300 ft.

WILLIAMSON COUNTY—Fuch & Walter's F. Ollman 1, Bevil sur No. 56, sd 875 ft. Glass Bros.' A. Albert 1, P. Coursey sur, sd 785 ft. Kophman et al's Kruger 1, B. G. Bevil sur No. 56, N. Byersville field, dry & abnd 1115 ft. Ruel et al's Bochmeyer (Rummell) P. Cartwright's sur, sd 800 ft.

ZAPATA COUNTY—H. F. Crow's B. Uribe 1, blk 35, sub of sh 11, por 4 & 5, San Ignacio sub, J. V. Borrego gr, dk; Yzaguirre 1, sh 17, por 15, Lopena area, sd 415 ft. Humble O. & R. Co.'s E. Dominguez 1, por 31, dr 5350 ft. J. J. O'Hern et al's S. Vela 1, blk 2, por 27, 7 mi ne of Charco Redondo field, dr 250 ft. Joe Palmer's Emma Markrud 1, blk 22, sec 616, sd 1270 ft. SR & C Oil Corp's Trevino 15-A, blk 8, sec 66, Escobas field, deep

TEXAS GULF COAST

AUSTIN COUNTY — Deering & Kayser's McClenton 1, se of Bellville, Thos. Bell sur, abd 4864 ft. J. S. Wheelis's Knolle 1, Industry Prospect, Pettus sur, abd 3625 ft.

BRAZORIA COUNTY — Gulf's Wilkes & Smith 1, Lochridge prospect, J. W. Hall sur, ru. R. R. Osburn's Jones 1, w of West Columbia, J. Thompson sur, ru.

CHAMBERS COUNTY—Woodley Pet. Co.'s A. G. Blanke 1, 1¾ mi ne of Mason's R. M. White 1, H&TC sur, sec 41, dr shale 6643 ft. Salt Dome Oil Co.'s Lawrence 1, Cotton Lake prospect, J. Grant sur, ru.

COLORADO COUNTY—Clyde Creighton et al's H. Witte 1, s of Bernard, H. Witte sur dr shale 3450 ft.

FT. BEND COUNTY—Thompson Dr. Co.'s Brown 1, Pilant Lake, Geo Menefee sur, dr shale 5565 ft.

HARRIS COUNTY—E. E. Young's Griffith 2, w of Humble, A. R. Bedeman sur, dr shale 3950 ft. Cockburn Oil Corp.'s Houston Ship Channel 1, Battleground prospect, A. McCormick sur, ru.

JEFFERSON COUNTY — Sun Oil Co.'s Hebert & Broussard 1, s of Lovall Lake, Labelle area. B. Backmon sur, set 95⅝-in csg 8210 ft. Jack Frazier's Oswald 1, Cheek prospect, M. Peveto sur, dr shale 2025 ft. Humble's Kyle E. White 1, Jefferson Coast prospect, T&NO sur, No. 370, workover, td 3557 ft, ru to deepen.

MATAGORDA COUNTY — Helmerick & Payne's Hawkins 1, Sheppards Mott, D. A. McCarthy sur, sdtr 5285 ft, dr shale 5293 ft. H. M. Smith Corp.'s Wadsworth Estate 1, S. R. Fisher sur, dr shale 8690 ft. Sterling Oil & Refining Co.'s Bear 1, sw of Sargent, S. Hoit sur, sd 1830 ft.

MONTGOMERY COUNTY — Wm. Thompson et al's J. B. Scott 1, F. Wheeler sur, no report. Turnbull & Irwin's Carr 1, Tamina area, C. Allen sur, abd 5953 ft.

POLK COUNTY—Gulf Prod. Co.'s Trinity Lumber Co. 1, nwc of county, O. Peterson sur, abd 3588 ft.

SAN JACINTO COUNTY—Darby Jones J. R. Bennett 1-A, David Beer sur, dr shale 5225 ft.

TRINITY COUNTY — Bundy Oil Co.'s Thompson 1, J. Cevallos sur.

WHARTON COUNTY—Navarro Oil Co.'s E. P. Schoelman 1, Mancha prospect, N. Mancha sur, dr shale 7691 ft. Pure Oil Co.'s E. Page 1, Blue Basin prospect, J. Pirie sur, dr shale 3846 ft. Sterling Oil & Refining Co.'s F. Janek 1, East Barnard prospect, J. Scott sur, to set csg at 8667 ft. Texas Co.'s Pierce Estate C-1, Five corners prospect, Jno. Caldwell sur, dr shale 3824 ft.

EAST TEXAS

ANDERSON COUNTY—Gulf's M. A. Davey-Royall 3 (163-ac), John Squyres sur, Camp Hill area, elev 573 ft, Pecan chalk 3925-4190 ft, Austin chalk 4908-5107 ft, Sub-Clarksville sand 5113½-23 ft, tested oil, mud and sw at 5073-5117 ft, top Woodbine series 5237 ft and water sand 5278-81 ft, dry and abd; E. T. McCain 1 (80-ac), P. Martin sur, Camp Hill area, elev 575 ft, Pecan chalk 3900-4140 ft, Austin chalk 4876-5060 ft, Sub-Clarksville sand 5060-65 ft, tested dry, top Woodbine sand 5165-69 ft, sandy-shale to 5171 ft, completed 14 bbls oil per hr ⅜-in choke on tubing. Tide Water & Texas Seaboard's N. N. Willis 21-A, Cayuga field Trinity test, elev 308 ft, cem 7-in cas 8750 ft, tested hot salt w at 8867 ft, made sw on dst in Basal Trinity at 9082 ft, pb to perf cas at 8730 ft; Shaw-Cern 2 (1216-ac), Daniel Parker sur, Long Lake area, elev 298 ft, cem cas 2127 ft.

BOWIE COUNTY—Tex-Ark Oil Co.'s J. B. Hamilton 1 (40-ac), Jessie Milam sur, elev 272 ft, sd 1121 ft. Woodley & Bentley's J. D. Lump-

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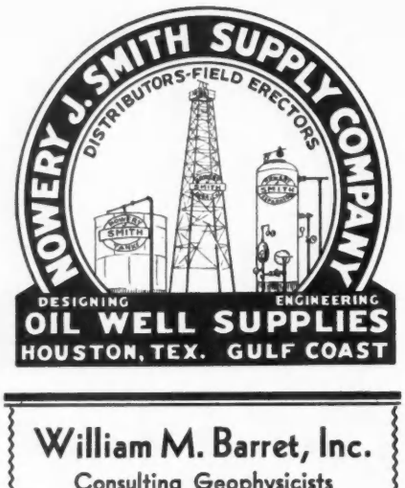

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kin 1 (245-ac), John McDermott sur, 1¼ mi sw of Dalby Springs, sd 120 ft.

CAMP COUNTY—E. J. Moran, G. E. & Ray Hubbard's W. M. Mitchell 1 (100-ac), L. Rose sur, 1½ mi n of Newsome, lcn.

CASS COUNTY—American Liberty Oil Co.'s J. B. Rogers 1, C. M. Robinson sur, Rodessa sur, lcn. Stanley A. Thompson et al's W. A. Hooton 1 (498-ac), J. H. Kernels sur, rig.

CHEROKEE COUNTY — Jacksonville O&G Corp.'s H. B. Henderson 1 (40-ac), J. Pineda sur, 5 mi ne Jacksonville, elev 409 ft, sd 2200 ft.

COLLIN COUNTY—Port Bolivar O&R Co.'s Clarkston-During 1-A, Wm. Creager sur, rig; J. Shirley 1, James Sorrell sur, Washita lime 1762-63 ft, dr 1950 ft.

ELLIS COUNTY—Beasley O&G Co.'s Mrs. Erie Roller 1 (200-ac), Ruidoso Irregation Co. sur, 1 mi s of Crisp, sp and sd.

FREESTONE COUNTY—Stewart & Watson's S. A. Burleson-R. S. Red 1 (80-ac), J. Y. Aguilera sur, Red Lake area, Pecan chalk 3243-3393 ft, top soft Austin chalk 4360 ft, hard chalk 4400-4742 ft, top Woodbine series 5147 ft, sand (sw) 5232-48 ft, dry and abd.

GRAYSON COUNTY—Olson Drl. Co. et al's Southwestern Life Insurance Co. 1 (160-ac), J. C. Jamison sur A-865, 3 mi n Pottsboro, dr 2215 ft. Port Bolivar O&R Co.'s Creed Taylor 1, J. Fitzhugh sur, 3 mi se Gunter, sp.

HUNT COUNTY—J. F. Morrissey Co. Inc's P. B. Fry 1-A (146-ac), Calloway Davis sur, 7 mi se Ladonia, elev 561 ft, top Paluxy 3605 ft, top Red Beds 3806 ft, fsh bp 4442 ft.

KAUFMAN COUNTY—C. C. Pearson et al (was Murray & Emerson's) G. W. Martin 1 (100-ac), W. F. C. Butler sur, elev 429 ft, sd 2010 ft.

LAMAR COUNTY—North Texas Synd. (E. T. Bradley, Tr.'s) Alice Wright (Reese) 1 (163.3-ac), Alfred Moore sur, 2 mi ne Caviness, sd 1317 ft. Texas Gulf Pet. Co.'s A. L. Darnell 1 (40-ac), H. L. Williams sur, 4 mi ne Paris, Austin chalk 816-864 ft, top Woodbine 948 ft, top Red Beds 1002 ft, sd for cas 2110 ft.

LEON COUNTY—Tide Water & Texas Seaboard's A. W. Johnson 1 (425.81-ac), Simon Sanchez sur No. 7, Long Lake area, elev 230 ft, Pecan chalk 3630-3830 ft, Austin chalk 4616-4919 ft, cored gas sand, td 5313 ft, cem 7-in cas 5307 ft.

LIMESTONE COUNTY—Dan H. Daugherty et al's Sallie Welch 1 (94-ac), Pedro Varella sur, Austin chalk 2350-2650 ft, top Woodbine 2890 ft, td 3121 ft, tested dry after using 1000 gals acid solution, sdo.

MORRIS COUNTY—J. N. Buchanan et al's P. M. Staggers 1, J. D. Nelson sur, elev 363 ft, sd 4327 ft. C. M. "Dad" Joiner et al's fee 1, Wm. Coffey sur, lcn. Steve J. Rotondi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw of Naples, sd 1768 ft. B. L. Watson et al's E. Hall 1 (177-ac), Levi Jordan sur, 5 mi ne Daingerfield, top sand 4175 ft, elev 360 ft, sd in ws 4258 ft.

NAVARRO COUNTY—L. N. McCulloch et al's Berry Bros. 1, (35-ac), W. W. Moss sur, Austin chalk 751-1060 ft, sd 1477 ft. E. M. Thomason & Co. Inc.'s T. P. Shivers 1 (69-ac), W. R. Bowen sur, 2 mi s Corsicana, dr 1290 ft. Wiggins-Albritton & Wiggins' D. A. Donodo 1 (63½-ac), Highnote & Caudle sur, 2 mi sw Corsicana, elev 467 ft, sd 1439 ft.

RAINS COUNTY — W. A. Allen, Geo. W. McClung & Harry B. Baker's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw Emory, dk; S. P. Cain 1 (98½-ac), J. Harges sur, A-109, 1 mi nw Emory, lcn; Mrs. Olma Giles 1 (77-ac), Thos. Cunningham sur, 6½ mi sw Emory, dk.

RED RIVER COUNTY — J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. (Wight) 1 (62½-ac), Sam Pew sur, 6 mi n Bagswell, rig. W. G. Clark & R. H. Chew's J. F. Brooks 1 (321-ac), Ben Gooch sur, ½ mi s Bagswell, dk. Garson & Seigel's W. T. Morris 1 (351-ac), Joseph Guest sur, 1 mi s Detroit, rig.

RUSK COUNTY—J. W. Shipman et al's Citizens Nat'l Bank 1 (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, top Pecan chalk 2355 ft, fsh 3150 ft. L. B. Prior & A. B. Edwards' W. R. Poston 1 (50-ac), Jacob Roth sur, dr 2300 ft.

UPSHUR COUNTY — Thos. D. Humphrey's Frank Farmer (Flewellen) 1 (256-ac), John B. Goy sur, 8 mi ne Gilmer, dr 2500 ft. Joe A. Papadakis et al's W. H. Allen 1 (37-ac), Lino Gonzales sur, testing 3760 ft.

VAN ZANDT COUNTY—J. H. "Bill" Gilliam et al's E. S. Marten 1 (416-ac), Jas. Hamilton sur A-407, 3 mi ne Wills Point, lcn.

WOOD COUNTY—Gulf Prod. Co.'s R. M. Stone 1 (40-ac), J. Simpkins sur, 1 mi sw of Alba, preparing to start up.

HARRISON COUNTY — Adams & Bird's Washburn Lbr. Co. 1, F. Jordan sur, dk. Itex Oil Co.'s T. J. Taylor 1, W. H. Payne sur, arr deepen, td 5853 ft. Roy C. Swails' Bonnie Pitts 1, G. W. Martin sur, sd 1900 ft.

PANOLA COUNTY — Steve Blazek's Robt. Johnson 1, J. Johnson sur, claim so, sd for csg 1983 ft. Modisette & Jolley's Loyd Thompson 1, D. McDonald sur, dk.

WYOMING

ALBANY COUNTY—Ohio Oil Co.'s W. B. Emery 1, cse ne 30-15n-75w, cementing 11⅝-in csg 200 ft.

BIG HORN COUNTY—J. W. Bales' Parker 1, csw sw 23-49n-89w, dr 463 ft.

CARBON COUNTY — General Petroleum Corporation of California Whitford 1, sw se ne 24-20n-84w, dr 5175 ft. Shirley-Wyoming Oil Co.'s Quealy 1, nw nw ne 21-26n-80w, dr 415 ft.

CONVERSE COUNTY—Chadron-Osage Oil Co.'s State 1, cne 16-32n-69w, dr 1400 ft and carrying the 12½-in csg. John Ackard's Daniels 1, sw sw se 17-32n-71w, dr 3000 ft.

NIOBRARA COUNTY — Riggs Oil Co.'s Spaugh 1, nw nw nw 4-33n-65w, fsg 1320 ft.

SHERIDAN COUNTY—Sheridan Syndicate's Allison 1-A, sw sw se 15-55n-85w, dr 5175 ft.

Catalogs . . . Bulletins

Truck Recorder

The Service Recorder Company, Cleveland, Ohio, has issued an interesting booklet that describes the "Servis Recorder," an instrument used to show the running and standing time of trucks.

Turbine Pumps

Worthington Pump and Machinery Corporation, Harrison, New Jersey, has issued bulletin No. W-450-B19 describing its deep well turbine pumps.

Rotary Bushings

American Well & Prospecting Company, Corsicana, Texas, has issued information bulletin No. 5 that gives details on a change in the bushing arrangement for its "Gumbo Buster" 26-inch oil bath rotary.

Pumping Jacks

Bovaird Supply Company, Tulsa, Oklahoma, has issued bulletin No. 25 describing the pumping jacks it manufactures.

Pipe Tools

Landis Machine Company, Waynesboro, Pennsylvania, has issued a fully illustrated bulletin that describes the pipe cutting and pipe threading tools it manufactures.

Electrodes, Etc.

The Lincoln Electric Company, Cleveland, Ohio, has issued an attractive booklet describing its line of arc welding electrodes and accessories.

Gaskets

Goetze Gasket & Packing Company, New Brunswick, New Jersey, has issued Catalog 48 on metallic and semi-metallic gaskets, sheet and stuffing box packings, sealing compounds, gasket cutting tools, valve discs, filter screens and metal stampings.

Pumping Power

The National Supply Company, Toledo, Ohio, has issued bulletin No. 80, describing the National pumping power connections and substitutes.

Pumps

Pennsylvania Pump and Compressor Company, Easton, Pennsylvania, has issued two bulletins, No. 166 describing the Class 7-AT and 8-AT roller bearing type vacuum pumps, and No. 224 describing the Class SMD, SHD and SLD sleeve bearing pumps.

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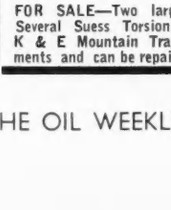

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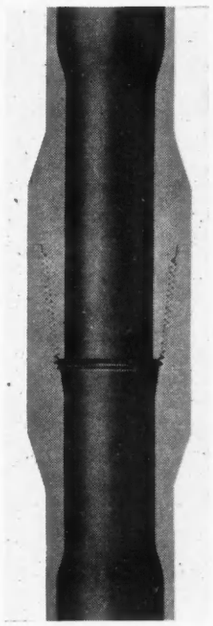
NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Catalogs • Books

INTEGRAL JOINT DRILL PIPE
Jones & Laughlin Steel Corporation

A new drill pipe of advanced design that eliminates the use of the conventional tool joint is announced by Jones and Laughlin Steel Corporation, Pittsburgh. It is known as "J&L Integral Joint Blue Ribbon Seamless Drill Pipe," and is the latest addition to the company's line of oil country tubular products, which includes regular A. P. I. drill pipe, casing and tubing, seamless and welded line pipe and hot rolled seamless steel boiler tubes.



J. & L. Drill Pipe

The method of manufacture is as follows: first the end of the drill pipe is upset to a tool joint shape. After this upsetting operation, the drill pipe, not yet threaded, is heat-treated to produce the desired physical properties. Then a tool joint thread is cut on the upset end. This provides a tool joint integral with the pipe itself.

Elimination of a large proportion of threaded joints means fewer failures, and this in turn means lower cost and increased speed of drilling, according to the manufacturer.

Another important feature is the smooth, easy change of diameter of the interior forming what might be called a "streamlined" interior, which reduces turbulence and gives increased mud velocity.

Box and pin threads have both the hardness and wearing qualities of the best tool joint; there is sufficient stock in the upset of both box and pin ends for two complete rethreadings; and, since no heat treatment is required, this rethreading can be done by any shop equipped to cut a good thread.

ENGINE STARTER
The Cooper-Bessemer Corporation

The Cooper-Bessemer Corporation, Mt. Vernon, Ohio, has announced a new fast-working single-stage air compressor for starting gas and Diesel engines, capable of filling a tank of six cubic feet capacity up to 200 pounds pressure in five minutes or up to 250 pounds in nine and a half minutes. The bulletin announcing it points out that the efficiency of a small machine may be as important as that of a large one —if the larger depends on the smaller to set it in motion; and no satisfactory performance can be obtained from an ordinary small air compressor put into air-starting service. Such compressors, being designed for about 100 pounds pressure, as a rule, are naturally far from efficient at the higher pressures required for starting gas and Diesel engines.

The new special unit, to be known as the GX3A, runs equally well on either gas or gasoline. It is a simple, self-contained combination engine and compressor and is of very moderate cost. Ford parts are largely used, pistons, piston rings, connecting rods, connecting-rod bearings, engine valves, and many smaller parts being thus obtained, with the assurance of high quality and uniformity, at low cost.

Both power and compressor cylinders, cast in one piece, are water-jacketed. The power-cylinder head, which is a separate casting, is of the automotive type, water-cooled, and carries a spark plug only. A Ford Model B gasoline carburetor and an adjustable gas mixing valve are furnished as standard equipment, also a rotary-type magneto with impulse coupling for hand starting.

Where gas is the fuel, it is possible to start the engine on gas; but the recommended procedure is to start on gasoline, then switch to gas. A one-gallon gasoline tank is mounted over the compressor and connected to the carburetor.

Splash lubrication is automatically provided for all parts. Oil reservoirs feed lubricant to the main bearings, valve tappets, camshaft bearings, governors, and magneto drive.

CLAY
George S. Mepham & Company

Geo. S. Mepham & Company, has announced full production of Spud Clay, following thorough field tests over a long period. Spud Clay, a natural clay of the Kaolin variety, is pre-eminently suited to the formation and control of drilling mud, particularly for spudding in and other work where weight is not required, the manufacturer claims. It is a finely ground white clay, free from sand and other abrasive substances, and acts as a good lubricant in drilling mud. It is non-settling, and the manufacturers state that it serves as a good wall builder, and that it makes mud of good viscosity, even at high concentrations.

An average analysis of Spud Clay, according to the makers is:

Loss on ignition (combined moisture and carbon dioxide)	14.40%
Silica (SiO_2)	69.90
Alumina (Al_2O_3)	12.40
Magnesia (MgO)	1.85
Calcium Oxide (CaO)	1.30

The above analysis describes the various elements usually reported in a chemical analysis, and not the minerals occurring in the clay. Alumina and silica are combined to form an aluminum silicate and magnesia and calcium with carbon dioxide to form calcium and magnesium carbonates.

Spud Clay has a hydrogen ion concentration of pH of 4.5, indicating that it is slightly on the acid side, since an exactly natural material has a pH of

7.0. The slight acidity is derived from organic acids set free by the decomposition of organic matter. Spud Clay manufacturers explain that these traces of organic acids are neither strong enough nor active enough to corrode pumps or drilling equipment and do serve as an aid in drilling through sulphur water or salt formations.

The uses of Spud Clay are outlined in a recently published paper, a copy of which is available through Colox Sales & Service, 2225 Arbor Street, Houston, or from Colox engineers in the field.

MINERALS YEAR BOOK

In announcing the Minerals Yearbook 1935, the Bureau of Mines wishes to point out to the mineral industry that the supply of copies available for distribution is limited. Following the example of preceding editions, the new volume carries forward the statistical information and economic discussions on mining, printed in various former publications including "Mineral Resources of the United States," which was issued annually for over half a century.

Ever since the first Minerals Yearbook was announced in August, 1933, as an innovation among government statistical reports combining complete data on minerals with promptness of publication, the immediate demand for each edition has far exceeded the supply despite large increases in the num-

ber of copies available. Editions of 1500 and 1000 copies, respectively, for the 1934 volume were practically sold out before they could be delivered by the printer, and a supply of 7600 copies was soon exhausted.

The 1935 volume continues the advances made in its immediate predecessor and incorporates many improvements based on constructive suggestions volunteered by close observers and students of the mineral industry. In addition to accurate official data on all commercially important minerals, there is a resume of the principal economic developments in mining, as well as chapters dealing with progress in coal utilization, uses of petroleum fuels, petroleum and natural gas production, mine safety, and mineral developments from a world viewpoint. A new chapter on miscellaneous commercial gases and another on minor nonmetallic minerals appear for the first time. Recommendations of the National Resources Board and activity under the National Recovery Administration are reviewed in the commodity discussions. Important occurrences in gold and silver mining and markets are thoroughly surveyed, supplemented by detailed reviews of activity in the metal mining districts of the various states.

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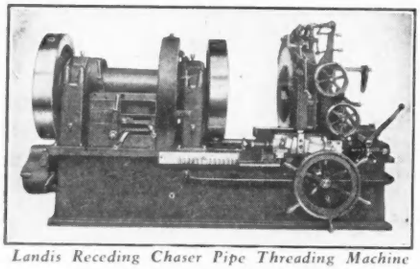

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This Week with the Industry's EQUIPMENT SUPPLIERS

Kennedy Valve Appoints William Godbey Representative

The Kennedy Valve Manufacturing Company has announced the appointment of William Godbey as its representative in Kansas, Nebraska, Western Missouri, and Southwest Iowa. Mr. Godbey will handle the sales of Kennedy iron body and bronze valves, fire hydrants, malleable iron and bronze screwed fittings and cast iron flanged fittings and flanges in this territory. His headquarters will be in Kansas City, Missouri.

Joseph M. Bandish Joins Felt Products Mfg. Co.

The management of Felt Products Manufacturing Company announces the appointment of Joseph M. Bandish as director of sales of the Metallic Packing Division of that firm.

A veteran of the packing industry, Mr. Bandish brings to his new position a wealth of practical knowledge gained through years of intimate contact with actual packing problems. His reputation as an originator and designer of packings is well known throughout the industry.

Mr. Bandish's new offices will be located in the Felt Products Building at 1508 Carroll Avenue, Chicago, Illinois.

Frick-Reid Supply Opens Rodessa Store

Frick-Reid Supply Corporation has opened a new store at Rodessa, Louisiana. The local store manager is F. S. Stagg. The operation of the store is under the direction of H. C. White, district sales manager of Shreveport.

American Hammered and Skinner Chuck Make Contract

A contract has been consummated whereby American Hammered Piston Ring Company, Baltimore, Maryland, and The Skinner Chuck Company, New Britain, Connecticut, are to cooperate in the manufacture and sale of Gold Seal and Silver Seal piston rings.

For the last four years The Skinner Chuck Company has been carrying on laboratory and field tests on rings with peripheral anti-friction metal inserts, in which tests American Hammered Piston Ring Company has cooperated. The results obtained have proved the merit of this type of ring, and, accordingly, American Hammered Piston Ring Company has added these items to its line of rings for industrial uses.

These rings have been adopted as standard equipment by such well-known firms as Westinghouse Electric and Manufacturing Company in their Diesel engines, and Frick Company in their high capacity refrigerating machinery.

It is quite possible that at a later date the American Hammered Piston Ring Company may also offer Gold Seal piston rings for automotive use.

Gold Seal piston rings are rings with bronze inserts around the periphery and are used in internal combustion engines of all types, steam engines, compressors, etc.

Silver Seal piston rings are rings with inserts of babbitt or similar white metal alloy for use in refrigerating machinery and other places where ammonia or other chemical present prevents the use of bronze.

The high unit pressure of the narrow bearing strips against the cylinder walls gives a quicker initial seat, which tends to prevent blow-by in either out-of-round or tapered cylinders. As the bearing metal wears, it burnishes the cylinder walls and allows the cast iron ring to reach a seat very gradually. The addition of the anti-friction metal strips to the cast iron ring eliminates scuffing and reduces ring and cylinder wear.

Reed Roller Bit Company Goes on New York Curb

Stock of the Reed Roller Bit Company of Houston, was listed for the first time on the New York Curb Exchange September 30. The company was organized in 1919.

In March, 1929, the company's capital of $1,250,000, consisting of 50,000 shares of $25 par value each, was changed to 200,000 shares without nominal or par value, and the number of shares was increased to 210,000. Of the total, 197,750 shares are outstanding, and 12,250 shares are held in the corporation's treasury.

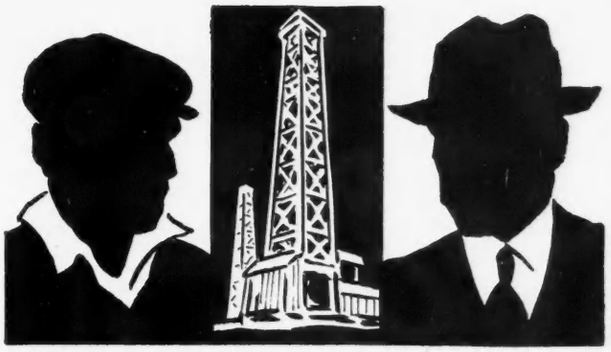
Total assets of the company as of August 31, 1935, were $5,857,394.27, of which $2,176,014.29 were current assets, with current liabilities $193,297.19. The company has no funded debt. In the first eight months of 1935, the company's net earnings, before federal taxes, were $526,605.39.

Officers of the company are: S. P. Farish, president; W. L. Childs, vice president and general manager; R. G. Hamaker, vice president and sales manager; Wharton Weems, secretary and treasurer; and Paul Chew, assistant secretary and assistant treasurer. Directors are S. P. Farish, W. L. Childs, R. G. Hamaker, Wharton Weems, J. S. Abercrombie, W. M. Rice, H. C. Wiess, R. L. Blaffer, and W. S. Farish.

Jack Schley Opens Patent Office in Houston

Offices have been opened at 805 Second National Bank Building, Houston, by Jack A. Schley, Jr., patent attorney. Schley is recently from Washington, D. C. He will specialize in the prosecution of patent application and infringement suits.

HOLMES SMITH, chief inspector for Oil Center Tool Company products for the past year, has been transferred to the field as a member of the sales staff, and has been assigned to the South Texas territory.



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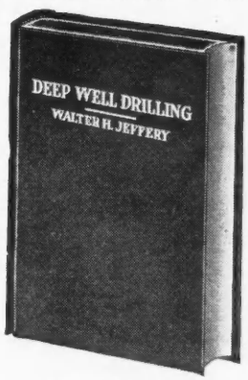

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The third edition contains 816 pages, 150 pages more than the second edition, and 452 illustrations, price $6.00.

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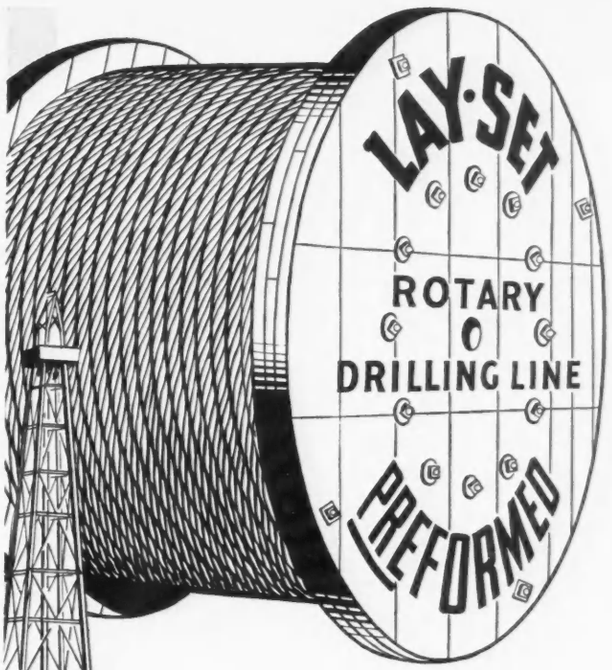

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No Service

I think it was terribly mean when Congress stopped sending us free seeds.

I think it was a waste for Congress to send us free seeds. They ought to plant the seeds and send us the vegetables.

Old Maids

"Which would you desire most in your husband: brains, wealth or appearance?" asked one.

"Appearance," snapped the other, "and the sooner the better."

Identified

Two acquaintances, who had not seen Macpherson for some years, called at his house on Saturday evening. Mrs. Macpherson answered the door.

"Does Macpherson live here?" they asked.

"Ay," was the woman's reply, "jist carry 'im in!"

Silent Profanity

A golfer, no matter how badly he played, was never heard to swear. One day one of his opponents remarked upon this fact.

"Yeh, it's true, I don't cuss," admitted the fozzler, "but let me tell you this. Every time I miss I spit, and whenever I spit, the grass don't grow again no more."

Must Be Good One

"I want you to teach my son a foreign language."

"Certainly, madam. French, German, Russian, Italian, Spanish——?"

"Which is the most foreign?"

Consolation

An old farmer was moodily regarding the ravages of the flood.

"Hiram," yelled a neighbor, "your pigs were all washed down the creek."

"How about Flaherty's pigs?" asked the farmer.

"They're gone, too."

"And Larsen's?"

"Yes."

"Humph," ejaculated the farmer, cheering up. "'Tain't as bad as I thought."

Distant Relations

A member of a new jury panel in circuit court, Kansas City, being examined, gave his name as Peter J. Nugent.

"Do you happen to be related to Anthony P. Nugent, the lawyer," he was asked.

"Yes, sir, I am a distant relative of his."

"Please be more explicit about this distant relationship. Is he your cousin, nephew or what?"

"Well, you see, there are sixteen children in our family. I am the oldest, and Anthony is the youngest."

Mrs. Bixby 1935

"Oh, yes," said the proud matron to her friend, "I have six sons."

"What are they doing?" asked the friend.

"Well, the eldest is a senator, and the second is also a half-wit. The third has the Croix de Guerre. The fourth wasn't in France either. The fifth is a banker, and his younger brother has the cell next to him. All doing well."

No Place to Start

Two old settlers, confirmed bachelors, sat in the backwoods. The conversation drifted from politics and finally got around to cooking.

"I got one o' them cookery books once, but I never could do nothing with it."

"Too much fancy work in it, eh?"

"You've said it. Every one o' them recipes began the same way: 'Take a clean dish——,' and that settled me."

Moderation

Capt. Arnold Miller of Berkeley, California, having just celebrated his 101st birthday, attributes his long life to whisky and lion-hunting. Many a mountain lion has bit the dust of the Ventura Hills following the pressure of Cap's trusty trigger finger, and many an empty bottle bears testimony to his high "tolerance." Cap's recipe, let it be known that he has not been one of your indecent tipplers, swilling booze until he could no longer stand or think. No, Cap is a disciple of old Euripides who, as we learn from the quotation book, called moderation "the noblest gift of heaven." His advice to all who would hit the century mark is: "Never drink more than a quart of whisky a day."

As She Is Spoke

Australian entering hospital:

"'Ullo, Bill."

"'Ullo, Steve."

"Come in to die?"

"No, yesterday."

Too Long

How long were you away on your wedding tour?

Too long! It turned into a lecture tour.

Substitute

Rastus was sent to the general store. "My boss," he said to the clerk, "wants a pane o' glass nine by 'leven."

"Haven't got none that size, Rastus," said the joking clerk, "but will a 'leven by nine pane do?"

"I'll try 'er," replied Rastus; "maybe if we slip 'er in sideways nobody'll notice it."

Seasons Mixed

"Janitor, you could cool our apartment nicely if you would run ice water through the radiators."

"Can't be done, madam."

"What did you have in them last winter?"

He Forgot to Duck

Judge: "Will you waive your right to appeal?"

Husband: "Don't let her wave any more rights, Judge. That's how I got this black eye!"

Just What the Doctor Ordered

"Good morning, Mrs. Kelly," said the doctor, "did you take your husband's temperature, as I told you?"

"Yes, doctor, I borrowed a barometer and placed it on his chest; it said 'very dry' so I bought him a pint o' beer and he's gone back to work."

When in Rome—

The Colonel touring Europe did not believe in forgetting those he left behind. To his son in college he wrote: "I am now standing on the cliff from which the Spartans used to throw their defective children. Wish you were here."

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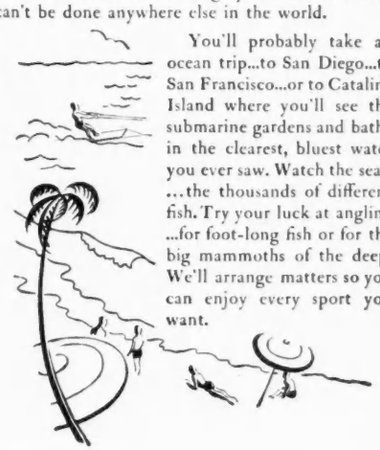

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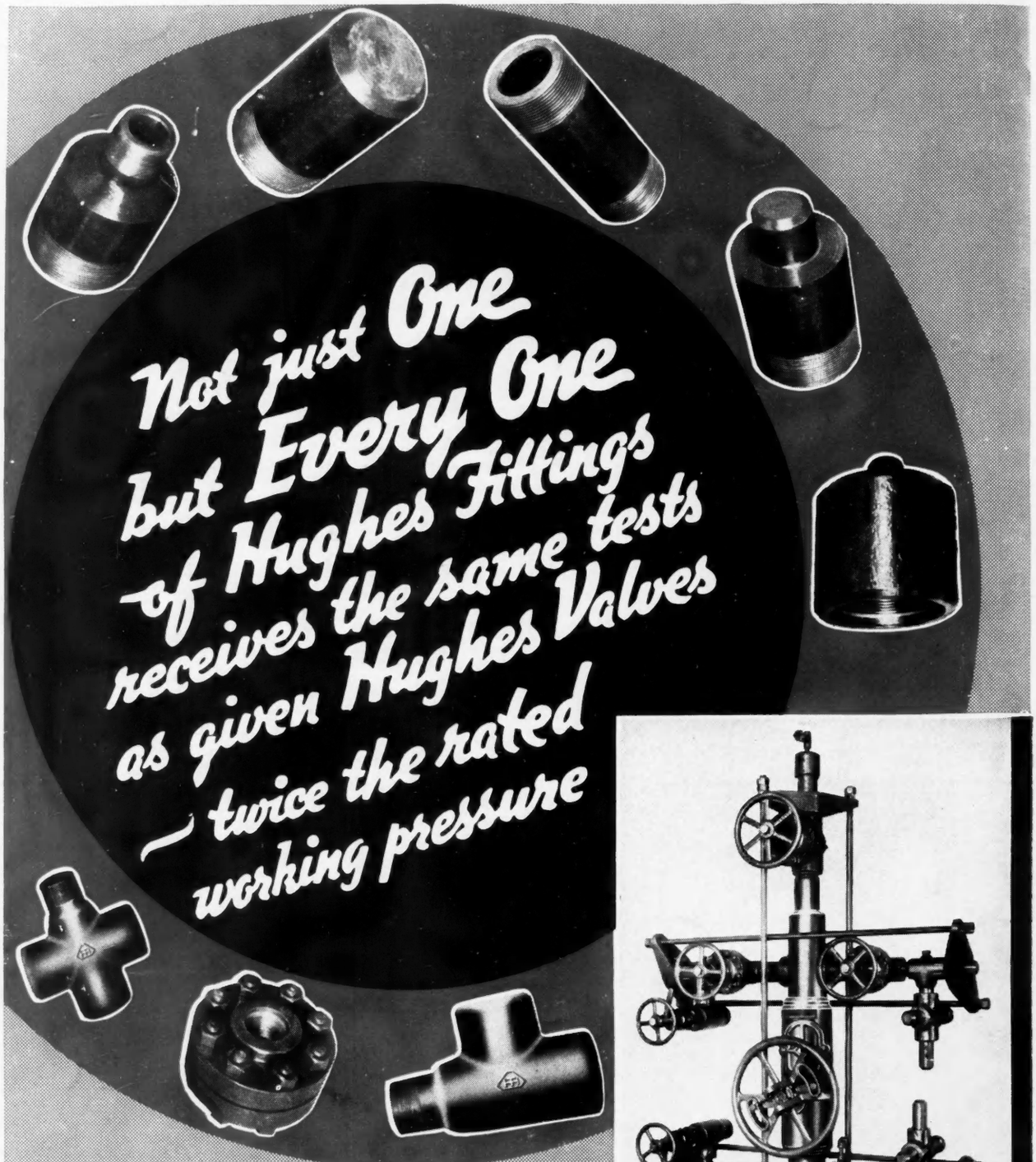

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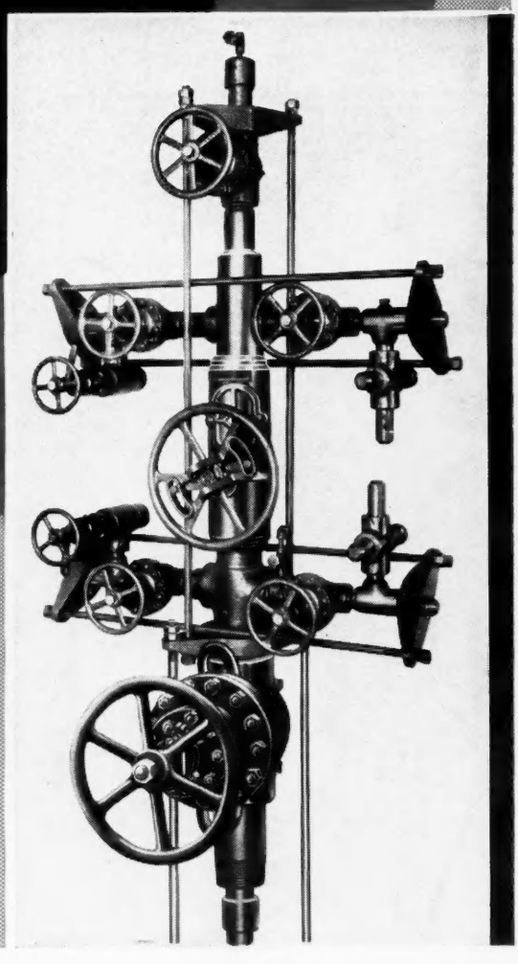

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